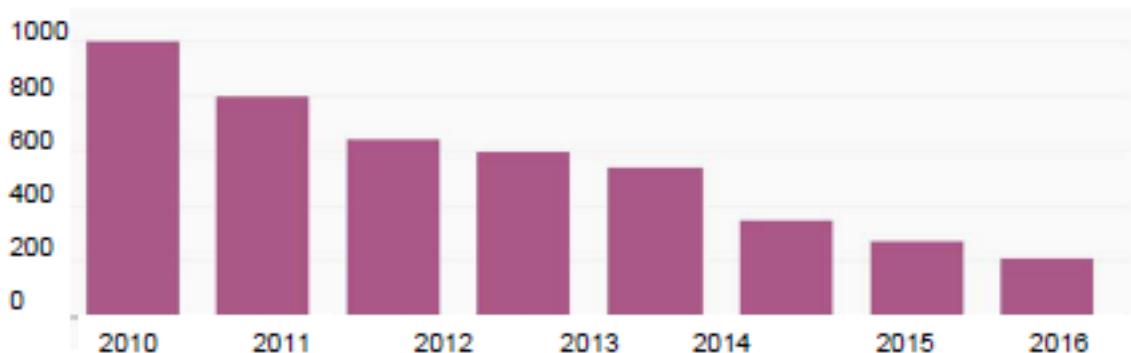


Answer all questions.

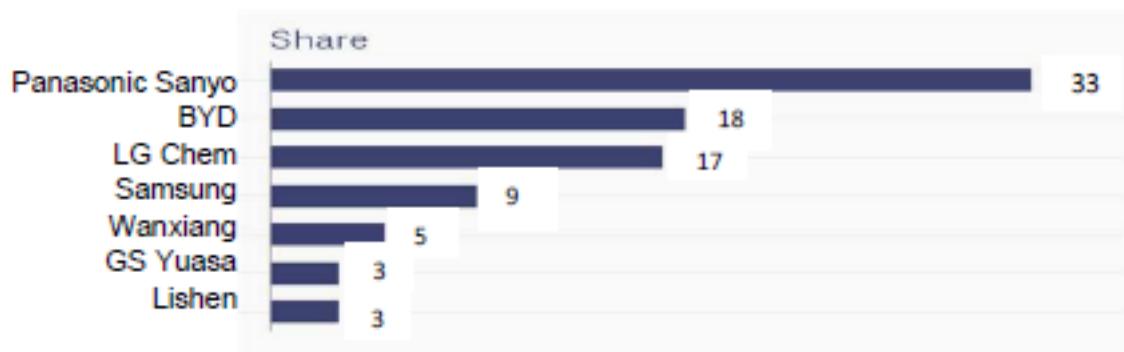
Question 1: The Rise of Electric Vehicles

Figure 1: Global price of lithium-ion battery (US\$/kilowatt hour)



Source: Bloomberg New Energy Finance, accessed 5 July 2018

Figure 2: 2018 Lithium-ion battery global market share (%)



Source: Statista, accessed 5 July 2018

Extract 1: Technology is fuelling the use of cobalt

Cobalt is a hard, shiny and greyish metal which has many strategic and irreplaceable industrial uses as a result of its unique properties. Currently used in numerous industrial chemical processes, close to half of the world's cobalt supplied today is used in lithium-ion batteries, putting it at the heart of the drive for alternative and renewable energy systems. There has not been a good substitute to make lithium-ion batteries without the mineral.

In 2017, lithium-ion batteries used in portable consumer electronics took up around 72% of total cobalt used in lithium-ion batteries. Each new electric vehicle, which runs on lithium-ion battery, uses about 10 kg of cobalt.

In recent years, electric cars have knocked diesel off its perch as the fuel with the smallest carbon footprint. Diesel also releases greater quantities of nasty gases other than carbon, such as nitrogen oxides, than petrol does. Many cities in Europe and the rest of the world want

to eliminate diesel cars from their roads as early as 2025. Governments hope that the void left by diesel will be filled by zero-emission battery-powered models. But mass adoption of such vehicles, which for now are expensive and have limited ranges, still appears a way off.

Sources: <https://www.dartoncommodities.co.uk/> (accessed on 21 July 2018) and *The Economist*, 13 February 2018

Extract 2: Charging ahead, China's dirty race for clean vehicles

After a decade of halting progress, electric cars are zooming ahead in China. Last year the number of registrations of new electric vehicles (EVs) in the country overtook that in America, making it the world's biggest and fastest growing market. The category includes electric-only cars as well as plug-in hybrids that can also run on petrol. Analysts expect the market to grow by nearly 50% a year for the rest of this decade.

The government has had a big role in the marked expansion of EVs in China. It doles out generous subsidies to local makers, to parts suppliers and to those who buy the final products. Last year alone, China shovelled over 90 billion yuan in subsidies into the industry, which it calls "strategic". This has led to queues of EVs on the streets, mostly of poor design and quality. China has yet to produce an EV manufacturer that can compete at the level of America's Tesla Motors.

The Chinese government is also encouraging other Chinese firms, including the country's tech giants, to innovate in the field. Tencent, a gaming and social media firm, is developing internet-connected EVs with Taiwan's Foxconn. Alibaba, an e-commerce firm, is providing data and cloud-computing services to Kandi Technologies, a local EV-maker that is popularising the sharing of the vehicles.

Source: *The Economist*, 28 July 2016

Extract 3: German cars have the most to lose from a changing auto industry

Carmaking is Germany's biggest industrial sector but cars are changing. Electric power and autonomous vehicles will alter radically the way they are used. The difficulty in adapting threatens not only future revenues and profits at the big three—Daimler, BMW and Volkswagen—but also Germany's status as a mean economic machine. However, the German carmakers have ambitious plans to catch up.

The German automobile industry is woefully behind in designing and selling electric vehicles (EVs), which consumers are increasingly taking to. It is not the Germans, supposedly the leading innovators in cars, but Renault-Nissan-Mitsubishi, a mass-market rival, that makes the world's bestselling EV, the Nissan Leaf, the sales of which have reached some 300,000 since the car's launch in 2010. Chinese carmakers are streets ahead.

"Made in Germany" has become a guarantee of engineering prowess that has helped to promote the country's exports of industrial equipment and a myriad of niche products. Around four-fifths of all cars made in Germany, worth €256bn (US\$283bn) in 2016, are exported. A workforce of around 800,000 is employed directly or by suppliers. In theory, German carmakers have the skills and cash to respond quickly, by building high-quality hybrid, plug-in

or all-electric cars. Volkswagen says up to 25% of its cars sold in 2025 will be electrified. But they will not come cheap. EVs are pricier to make than those petrol-powered.

Source: *The Economist*, 1 March 2018

Extract 4: After electric cars, what more will it take for batteries to change the face of energy?

The demand for vehicle batteries is expected to overtake that from consumer electronics as early as in 2018. Huge expansion is under way. The top manufacturers of lithium-ion batteries—Japan's Panasonic, South Korea's LG Chem and Samsung SDI, are ramping up capital expenditure with a view to almost tripling capacity by 2020. Tesla is building with Panasonic in Nevada a new gigafactory that will vastly increase its production capacity in 2018. There have also been large amounts of R&D investment to improve power density (more storage per kilogram) and better durability (more discharge-then-recharge cycles) of the batteries.

The expansions have resulted in significant overcapacity. In 2016, the manufacturing capacity for lithium-ion batteries exceeded demand by about a third. The battery manufacturers were reported to either losing money or making only wafer-thin profits on every electric-vehicle battery they produce. Despite the seeming glut, though, they all have plans to expand, in part to drive prices even lower.

Source: *The Economist*, 12 August 2017

Questions

- (a) Using examples from extract 1, distinguish between complement in demand and derived demand. [2]
- (b) Explain a factor that could be responsible for the trend in the global price of lithium-ion battery shown in Figure 1. [3]
- (c) Extract 2 mentions that the Chinese government is encouraging the production of electric vehicles.
Explain how this policy can address the problem of market failure in the land transport market. [5]
- (d) Account for the market structure which lithium-ion battery manufacturers are in. [2]
- (e) Assess whether size expansion or research & development (R&D) is the better method for lithium-ion battery makers to expand their global market share. [8]
- (f) Discuss whether Germany should adopt similar policies as China to maintain the profitability of Germany's car manufacturers. [10]

[Total: 30]

Question 2: South Africa's Economy Needs Dynamism

Table 1: Trade Balance (Goods and Services), US\$ at current prices (in billions)

	2013	2014	2015	2016	2017
South Africa	-8.46	-5.31	-4.05	1.91	4.75
Nigeria	22.77	-1.83	-23.64	-8.55	-0.09
United States	-461.88	-490.33	-500.45	-504.80	-568.44

Source: *World Bank*, accessed 5 July 2018

Table 2: Annual change in Real Gross Domestic Product (GDP) (%)

	2013	2014	2015	2016	2017
South Africa	2.49	1.85	1.28	0.57	1.32
Nigeria	5.39	6.31	2.65	-1.62	0.81
United States	1.68	2.57	2.86	1.49	2.27

Source: *World Bank*, accessed 5 July 2018

Extract 5: US trade practices heighten market fears

Since Mr Donald Trump took office in 2016, he has demanded China for a "fair, equitable and reciprocal" relationship, with more access for American-made goods and services. During his campaign, Mr Trump attacked China for unfair trade practices in their interventions. However, the Chinese central bank governor insists that China's "huge" trade imbalance with the United States is a structural and long-term problem and should be viewed with rationality.

President Trump shocked the world in early March 2018 when he announced plans to impose a 10% tax on aluminium exports and a 25% tariff on steel imports. Both the EU and China threatened retaliations almost immediately, heightening market fears of a trade war.

Africa, relatively isolated from the machinations of the financial markets, might not yet feel the ill effects of Trump's tariff proposal, but the continent stands to lose far more than most should a trade war become a reality. The demand for African resources is driven by global growth and, as such, is essential for the continent's economies. As the largest buyer of African commodities, Africa's economic growth is tied to China's.

Source: *The Straits Times*, 20 July 2017, 7 May 2018 & *CNBC Africa*, 12 March 2018

Extract 6: Signing of African Continental Free Trade Area

In 2012, the African Heads of State and Governments resolved to establish the African Continental Free Trade Area (AfCFTA) treaty to create a single continental market for goods and services in member nations of the African Union, with free movement of business persons and investments using a single currency. After several years, the draft agreement was finally signed on March 21, 2018.

The scope of the treaty covered agreements on trade in goods, services, investment, and rules and procedures on dispute settlement, including a range of provisions to facilitate trade, reduce transaction costs and increase flexibilities between countries.

However, consensus was not reached among many member nations who requested for more time to continue consultations on the potential impacts on their economies. For example, Nigeria was delaying its signature to the agreement to widen and deepen domestic consultations, to ensure all concerns were addressed, as it would not sign any agreement that would not fairly represent the interest of Nigeria. The Nigeria Labour Congress was against signing the treaty, warning that doing so would open the country's seaports, airports and other businesses to foreign domination.

Source: *Premium Times*, 29 March 2018

Extract 7: Openness to trade makes South Africa vulnerable to global shifts

In the case of South Africa, its openness to trade makes it more vulnerable to global economic shifts than if it was less open. The effects of these globalisation forces and domestic economic policies have brought the South African economy to a state far from prosperous.

Broadly speaking, while overall growth has improved since the mid-1990s, there is more inequality today compared to before. This was due to high-skilled workers and capital owners benefitting more from the net income gains, compared to unskilled and semi-skilled workers; this a concern for social stability. Moreover, part of this growing income is being taxed, and is deemed less efficiently utilised than private expenditure.

Why is this taking place? One important reason is because the services sector is growing and the manufacturing sector is shrinking. This tendency, when found in a developing country, is called "premature deindustrialisation". A developing economy would be expected to show an increasing level of industrialisation up to the point it becomes a developed economy. Much of Africa is deindustrialising as it battles to compete with the manufacturing economies of Asia. The fact is that a services-orientated economy, which South Africa is becoming more like, has less of a need for unskilled and semi-skilled workers than in an industrialising economy. On top of that, the South Africa's economy has also become more reliant on imports, with increasing import penetration across most sectors of the economy.

Source: *Business Live*, 28 February 2018

Extract 8: Increase in quantity and quality of investment will spur on dynamism

The release of South Africa's appalling first-quarter GDP growth data was a shock. The 2.2% GDP contraction requires the government to assess their priorities and implement the correct policies needed to drive economic growth.

In South Africa, building economic dynamism is urgently needed. The economy has to generate more jobs for the vast numbers of the unemployed and underemployed, especially among the youth. Over the longer term it is equally necessary to raise productivity and increase the country's global competitiveness. The key to building economic dynamism at this juncture lies in encouraging investment and intellectual property.

More investment is needed to equip workers with better tools, machinery and infrastructure, raising their productivity. The demand for more and better tools, machinery and infrastructure in turn increases the need for more workers.

However, increasing the quantity of capital is only one side of the coin. The quality of capital has to improve as well. The priorities of the government should be in formulating public policies to encourage higher investment, giving preference to private sector investment over public sector investment, and in so doing focus on attracting foreign direct investment (FDI). FDI is particularly impactful because it usually comes with a lot of inbound transfer of know-how and skills. As demonstrated powerfully by the experience of East Asia, global companies are instrumental in introducing state-of-the-art technical and management techniques and in upgrading the skills of the local workers they employ in countries in which they invest.

Clearly, global companies are still very interested in seeking opportunities in developing countries. South Africa must position itself as a preferred destination. Nevertheless, the pattern of the FDI flowing in the country are typically financial services, real estate developments and other business services that are highly concentrated in urban areas. Such expansions in business operations serve mainly the urban middle class, which constitutes a minority of households in South African society. On the contrary, what may be more inclusive are achieving a better mix in investment in terms of the different sectors in the economy as well as its geographic distribution across the whole country. Private businesses can add value by innovating, fostering technological progress, transferring knowledge and creating jobs. However, businesses need the support of a capable and effective state that creates an enabling environment while furthering social equality. The government must ensure efficient network industries (such as roads, rail, telecommunication and ports). It has to lay the foundations for the supply of skilled labour and deliver a supportive and predictable regulatory environment.

Source: *Various*

Questions:

- (a) (i) Compare the trade balance between South Africa and United States from 2013 to 2017. [2]
- (ii) Account for the change in the trade balance of United States observed in a(i). [2]

- (b) Using an aggregate demand and aggregate supply diagram, explain how trade wars among United States and China might affect domestic prices levels in Africa. [5]

- (c) Explain why the Nigerian government might consider it a rational decision to delay its participation in the African Continental Free Trade Area. [3]

- (d) Assess whether giving priority to private sector investments over public investments is a more appropriate approach in driving higher economic growth. [8]

- (e) Discuss whether the openness to trade in South Africa is likely, on balance, to have a beneficial effect on its economy and population. [10]

[Total: 30]

Answer **three** questions in total.

Section A

One or two of your three chosen questions must be from this section.

- 1 Singapore government is set to raise its Goods and Services Tax (GST) from 7% to 9% sometime between 2021 and 2025, depending on the state of the country's economic growth. It is likely that the GST hike will happen when there is improvement in economic growth. Rebates and cash vouchers will also be provided when GST is increased, to provide more help to lower-income households and seniors.

Source: Straits Times, 20 February 2018

Discuss how the combination of a GST hike and higher economic growth might affect consumer expenditure on different types of products. [25]

- 2 According to Euromonitor International, Singapore's grocery retail market was worth S\$4.3 billion in 2016, with the online grocery retail market valued at S\$96 million.
 - (a) Distinguish the characteristics of firms operating in oligopolistic and monopolistically-competitive markets. [10]
 - (b) Discuss how increased competition in online grocery retailing would affect the survival of traditional supermarket chains like NTUC Fairprice and Cold Storage. [15]
- 3 (a) Explain how imperfect and asymmetric information can lead to market failure in the markets for healthcare services and healthcare insurance. [10]
(b) Discuss whether joint provision is the most appropriate policy to correct the market failure in Singapore's healthcare services. [15]

[Turn Over]

Section B

One or two of your three chosen questions must be from this section.

- 4** In its report dated 1 February 2010, the Economic Strategies Sub-committee on Fostering Inclusive Growth stated that 'only productivity-driven growth can deliver sustainable and inclusive economic development'.

Assess the validity of this statement.

[25]

- 5** Discuss the extent to which the size of the economy affects a government's choice of macroeconomic policy tools. [25]

- 6** The United States (US) economy is showing signs of improvements, even as trade concerns loom. In the hope of reducing its trade deficit and unemployment, the US government has imposed high tariffs on imports from China and the European Union (EU).

(a) Explain why a country's pattern of trade might change over time. [10]

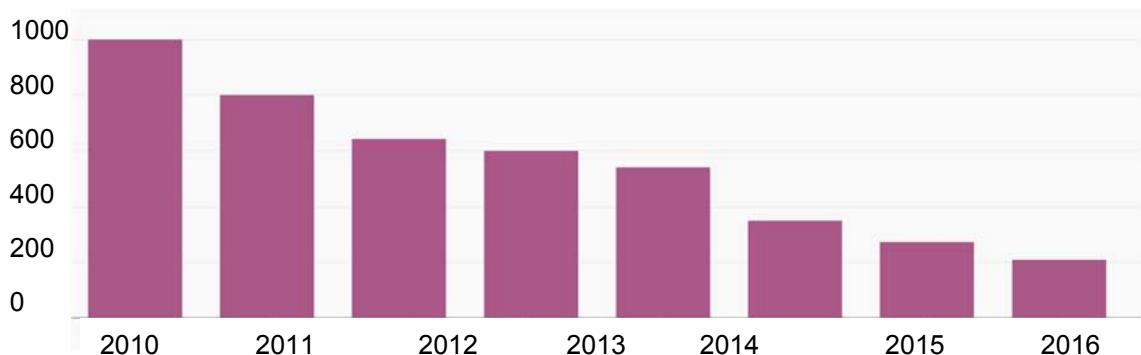
(b) Assess whether the use of protectionist measures to reduce trade deficit and unemployment can ever be justified. [15]

----- End -----

Answer all questions.

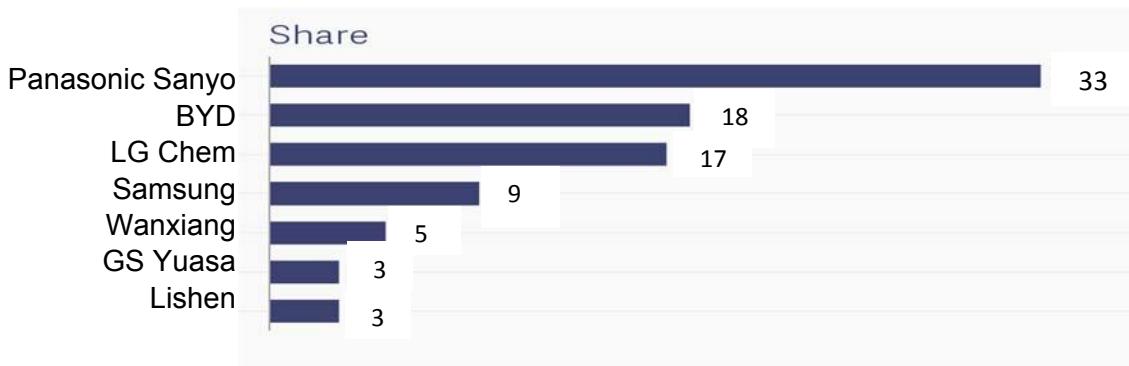
Question 1: The Rise of Electric Vehicles

Figure 1: Global price of lithium-ion battery (US\$/kilowatt hour)



Source: Bloomberg New Energy Finance, accessed 5 July 2018

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Extract 1: Technology is fuelling the use of cobalt

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Source: *The Economist*, 1 March 2018

Extract 4: After electric cars, what more will it take for batteries to change the face of energy?

The demand for vehicle batteries is expected to overtake that from consumer electronics as early as in 2018. Huge expansion is under way. The top manufacturers of lithium-ion batteries—Japan's Panasonic, South Korea's LG Chem and Samsung SDI, are ramping up capital expenditure with a view to almost tripling capacity by 2020. Tesla is building with Panasonic in Nevada a new gigafactory that will vastly increase its production capacity in 2018. There have also been large amounts of R&D investment to improve power density (more storage per kilogram) and better durability (more discharge-then-recharge cycles) of the batteries.

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Source: *The Economist*, 12 August 2017

Suggested Answers

(a)	Using examples from extract 1, distinguish between complements in demand and derived demand.	[2]
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Question requirements:

- ✓ Identify examples from Extract 1 that shows complement in demand and derived demand.
- ✓ Explain the difference between complement in demand and derived demand.

- **Lithium-ion batteries and electric vehicles are complements in demand** as lithium-ion battery is needed to run (used in conjunction/together) the electric vehicles
- On the other hand, **the demand for cobalt is derived from the demand for lithium-ion battery** as cobalt is needed to manufacture (used as an input to produce) lithium-ion battery.

Mark scheme:

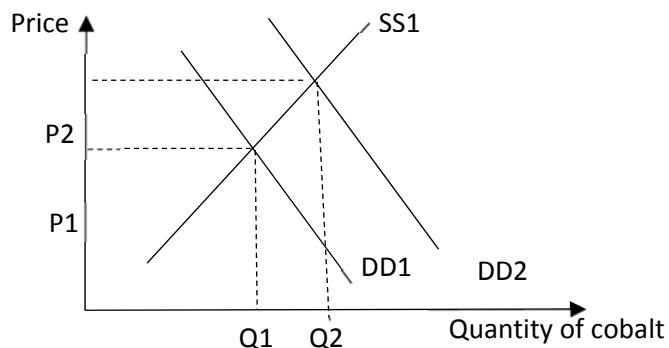
- **1 mark for explaining that lithium-ion battery and electric vehicle are complements in demand.**
- **1 mark for explaining that demand for cobalt is derived from the demand of lithium-ion battery.**

(b)	Explain a factor that could be responsible for the trend in the global price of lithium-ion battery shown in Figure 1.	[2]
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Question requirements:

- ✓ Identify a factor from extract 1 that has resulted in the increase in global price of cobalt.
- ✓ Explain that the increase in price is caused by an increase in demand and the magnitude of increase is influenced by the price elasticity of supply.

- The increase in price of cobalt is due to an **increase in demand** as there has been an increase in the use of electric vehicles which requires cobalt in the manufacturing of lithium-ion batteries to power the electric vehicles.
- This resulted in a **rightward shift of the demand curve** → **shortage** of cobalt at the original equilibrium price → **upward pressure on price** → price increases.
- The sharp increase in price is due to the **supply of cobalt being price inelastic** as it takes time to mine the cobalt and most of the world's reserves and production of cobalt are in one country, the Democratic Republic of Congo (extract 1) → producers cannot respond to the price increase quickly and thus will increase price sharply to eliminate the shortage.



Mark scheme:

- 1 mark for identifying demand for cobalt has increased due to increase in demand for electric vehicles and lithium-ion batteries. (use of case evidence)
- 1 mark for explaining how the increase in demand of cobalt leads to an increase in its price.
- 1 mark for explaining that the sharp increase in price is due to supply being price inelastic
- 1 mark for correct diagram.

(c)	<p>Extract 2 mentions that the Chinese government is encouraging the production of electric vehicles.</p> <p>Explain how this policy can address the problem of market failure in the land transport market.</p>	[5]
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Question requirements:

- ✓ Explain the market failure in the land transport market.
- ✓ Explain how an increase in production of electric vehicles can tackle the market failure in the land transport market by recognizing that electric vehicle is a substitute of diesel/fuel based vehicles which cause air pollution and generate negative externality.
- The use of diesel car generates negative externality as it emits harmful pollutants into the air, causing air pollution (extract 1) and deteriorate the health of third-parties whom do not receive any compensation → marginal external cost is positive ($MEC > 0$)
- The presence of negative externality causes a divergence between private marginal cost and marginal social cost as users of diesel car do not take into account the negative externality generated in their decision-making.
- The presence of negative externality will thus lead to the market failure due to over-allocation of resources as user of diesel car underestimated the true cost of using diesel car and the market price is too low to reflect this cost, leading to the equilibrium market output level to be higher than the socially-optimal output level. This cause deadweight loss to the society and thus the market of land transport fails. To address this problem, market equilibrium output of
- **Electric vehicles are substitutes for fuel-based vehicles.** By making electric vehicles cheaper to produce, consumers will switch demand away from fuel-based vehicles. Falling usage of fuel-based vehicles will reduce pollution levels and market failure.

Mark scheme:

- 3 marks for explaining the problem of market failure due to air pollution in the land transport market.
- 2 marks for explaining how the increase in production of electric vehicle can address the market failure in the land transport market.

(d)	Account for the market structure which lithium-ion battery manufacturers are in.	[2]
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Question requirements:

- ✓ Recognizing that market-concentration ratio is used to determine the market structure of an industry
- ✓ Explaining the market structure of the lithium-ion battery market using figure 2.
- The lithium-ion battery market is oligopolistic in nature.
- The evidence is in Figure 2. It indicates the 4-firm concentration ratio of 77%, which means that a few firms dominate the industry.

Mark scheme:

- 1 mark for identifying that the lithium-ion battery market is an oligopoly.
- 1 mark for using figure 2 to justify the market structure of the lithium-ion battery market.

(e)	Assess whether size expansion or research & development (R&D) is the better method for lithium-ion battery makers to expand their global market share.	[8]
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Question requirements:

- ✓ *Explaining how each strategy works on expanding market share (which tends to be in terms of sales value or revenue).*
- ✓ *Using valid criteria to consider which is a better method.*

Context: Unpacking what it means by expanding global market share and connecting to fundamental supply and demand principles

- Market share is usually measured based on a firm's sales revenue, or total revenue (TR).
- Strategies to raise TR can be understood in terms of supply or demand approaches. Strategies that raise demand will have direct positive effect on TR, while those that aim to raise TR through supply-side measures, such as by raising volumes in market and lowering price, the outcome will depend on the price elasticity of demand (PED) of the product.

Differentiating how the two strategies in the question work

- Size expansion suggests that the lithium-ion battery maker aims to benefit from the **internal economies of scale** → lowering average cost (AC) by expanding scale of production, either within a country or through overseas expansion.
- Overseas expansion can offer these further benefits:
 - firm can lower its cost of production if resources or minerals it needs in production are cheaper in the destination country
 - the country it's expanding in is also offering potential market.
- R&D on the other hand suggests that the lithium-ion battery maker is spending its resources not in investing into plant expansion, but it is **investing in innovation efforts**.
- R&D can be efficiency driven, to improve production method and lowering cost, or driven on the purpose of improving product range of quality. Firm in this case can be aiming **on lowering its AC or is aiming to producing higher quality goods which may involve higher AC**.

Examining the relative soundness of both methods (answer is free to use appropriate criteria of comparison but should remain linked to the objective of raising TR)

- Based on effectiveness in raising TR, R&D is necessary and more effective but is more affordable and cost effective for larger battery makers
 - The use of lithium-ion batteries for electric vehicles (EVs) offers great **demand expansion**, as mentioned in Extract 4. Consumers are looking for batteries that have power density and durability, so that EVs can run longer for each charging and each battery has longer life-cycle.
 - With high battery quality, a firm will have **low PED** of its products → the ability to charge higher prices and gain TR increases.
 - By this criterion, **R&D investment will be necessary and effective** for a battery maker to spur its demand.
 - However, smaller battery makers with far smaller market shares shown in Figure 2, which are Wanxiang, GS Yuasa and Lishen, will not be able to afford the large R&D investment as they will incur higher fixed cost. These battery makers may then **focus on lower range lithium-ion batteries to first gain the economies of scale from mass market**. It is likely

- that these firms will have **more price elastic demand, hence charging lower prices will be needed to expand their market share.**
- **Collaborative R&D** effort is also possible for these smaller firms. They can then apply their own distinct branding strategies to the results of the collaborative R&D.
 - Based on sustainability in raising TR, size expansion is necessary to make future R&D and marketing strategies more cost effective
 - Although R&D is more effective for producing premium quality batteries that can fetch high prices and market expansion, size expansion is **necessary too for all firms to gain from economies of scale.**
 - Even the most dominant firms such as Panasonic Sanyo will need to expand their plant capacity to lower AC because **in globally competitive markets both quality and price matter.** Which this firm may be in premium market, it is susceptible to competition from the close rivals such as BYD and LG Chem.
 - No firms can rest on the assumption that they can continue expanding market through quality and high prices alone. Extract 3 explains how Germany, a global leader in auto industry has been threatened by mass market EVs.

Synthesizing

- As EV makers look for lithium-ion batteries that offer both high density and durability, battery makers need to invest in R&D for such qualities. This will raise demand and enable them to adopt premium pricing, both raising global market share.
- But R&D and size expansion are mutually interdependent, both are needed for a R&D to be cost effective and sustainable.
- The battery makers with much smaller market share will find R&D a challenging strategy and may focus more on size expansion at the beginning stage to make their strategies they are adopting more cost effective. This will entail a mass market focus too.

L2	<ul style="list-style-type: none"> • Applying some economic concepts in explaining the two strategies • Explicit linking to qualities needed for EVs (source of demand expansion for lithium-ion batteries) • Using case study information, such as Figure 2 and Extract 4 	4-6
L1	<ul style="list-style-type: none"> • Explanation is more intuitive and lacking the conceptual support (not referring to internal economies of scale or PED as basis of explanation) • Not linking the qualities needed for lithium-ion batteries to requirements from EV market (density and durability) 	1-3
E2	<p>A coherent judgement which ends with an appropriate synthesis</p> <ul style="list-style-type: none"> • Using a criterion, such as effectiveness or affordability, to determine which is better • Able to make a considered statement after comparing the two strategies, examples: <ul style="list-style-type: none"> ○ R&D is more effective but only affordable for battery maker with larger market share ○ Both are necessary strategies and the issue of better applies to which is made a greater emphasis in the short term 	2

E1	A judgement that does not end with an appropriate synthesis <ul style="list-style-type: none"> • Judgement may be at random and not with a clear criterion • No sound considered statement at the end of answer 	1	
(f)	Discuss whether Germany should adopt similar policies as China to maintain the profitability of Germany's car manufacturers.		[10]
Answer requirements:			
<ul style="list-style-type: none"> ✓ <i>Identification of the policies adopted by China and explanation of how these are meant to support China's EV manufacturers.</i> ✓ <i>Using clear criteria in examining the appropriateness of these policies in the context of Germany.</i> 			
Identifying and explaining the policies China adopted for to expand the country's EV production <ul style="list-style-type: none"> • Extract 2 mentions that China provided generous subsidies in different forms, such as to parts suppliers and to buyers of domestically made EVs. • Simultaneous, the Chinese government is also supporting the growth of innovations which are EV-related. The examples mentioned point to innovation to make EVs internet-connected. • It appears that these two measures work on both the supply and demand sides of the industry. The subsidies will absorb part of the production cost of EVs, hence making them cheaper in the market, while the innovation and tie-ups with internet giant companies are meant to also enhance the quality and demand for its EVs. • State-support is obvious in the expansion of EV industry in China. 			
Justifying the support for state support in the context of German car industry <ul style="list-style-type: none"> • Macroeconomic benefits: German is a global leader in the manufacturing of premium cars. Extract 3 mentions that in 2016, four-fifths of its cars were exported and the industry employed 800,000 workers. If EV cars can produced cheaper and better in other countries, German economy will suffer significantly from the decline in its comparative advantage in technically supreme fuel-based cars. • While German car makers have started making EVs, these currently are more expensive than fuel-based ones and they lag behind American and Chinese made EVs. • Greater environmental awareness and improving quality and lowering prices of lithium-ion batteries will lead to rising demand for EVs, which means German car industry and economy are threatened. This can justify the need for state support to the industry. 			
Considering the appropriateness of the state support <ul style="list-style-type: none"> • However, state support for an industry's expansion is known to cause undesirable efficiency outcomes. • Efficiency consideration: Supporting an industry will weaken manufacturers' drive for competitiveness and innovation. If a car maker can sell cheaper because of state subsidy, it will lack the drive to make its production cost lower through efficiency and innovation. Extract 2 mentions of China-made EVs being of poor design and quality. • Capacity consideration: Being global market leaders of premium cars, German car makers should have the capacity to be inventive in EV market. Extract 3 mentions about these car makers having the skills and cash to build high-quality hybrid or pure EVs. 			

- Financial support to the industry may also be conceived by other countries as a **protectionist strategy** and this will invite uncalled for retaliation. China's state support for its industries has been known to upset its trade partners and cause retaliatory trade restrictions such as from US.

Synthesizing

- The importance of car industry in German's economy and the threats from the developments in EV and lithium-ion battery productions might point to the necessity of German government extending support to the country's car makers.
- However, from efficiency point of view, it is far more effective for competitiveness to be market and not state driven. The issues of reliance and outflow of government funds will mean that German car makers, which are globally strong producers, should be let to find their global market niche on their own efforts. If government support is to be given, this should be in areas which are considered hugely expensive but considered critical to German car industry as a whole and not distinct to EV production.

L2	<ul style="list-style-type: none"> Provides economic support to the two strategies Chinese government adopted for the country's EV industry, e.g. how these address demand and supply sides of the market Balanced view in considering whether state support is appropriate in the context of Germany Using case study materials, such as Extracts 2 and 3, in discussion 	5-7
L1	<ul style="list-style-type: none"> Considering the strengths and weaknesses of state support in making an industry globally competitive but the discussion lacking in depth, e.g. not considering that German is global leader in fuel-based car making and it will not be appropriate to support the industry to just be a mass market EV producers Mostly one-sided view of the issue of state support 	1-4
E2	<ul style="list-style-type: none"> 3 marks for answers that end with a sound conclusion, such as <ul style="list-style-type: none"> To be globally competitive producers, firms need to rough it out with their market-driven strategies German government may have to support innovation in EV production considering that the economy is very dependent on car manufacturing but is currently lagging behind in global EV market Sound criteria used in examining the issue of state support for growth of industries 	2-3
E1	<ul style="list-style-type: none"> Without a coherent direction in evaluation Judgement made is at random, answer is mostly lacking in statements of opinions supported with sound economic reasoning 	1

H2 Case Study Question 2 Answers

(a)	<p>Compare the trade balance between South Africa and United States from 2013 to 2017.</p> <p>Skills: For the command word “Compare”, should identify either</p> <ul style="list-style-type: none"> ✓ 1 similarity and difference OR ✓ 2 differences <p>Difference 1: South Africa’s trade balance had improved while United States’ trade balance had worsened from 2013 to 2017.</p> <p>Difference 2: South Africa’s trade balance has improved from a deficit to a surplus trade balance while United States’ trade balance was consistently in deficit throughout the years.</p> <p><i>1 mark for each difference explained correctly</i></p>	[2]
(ii)	<p>Account for the change in the trade balance of United States observed in a(i).</p> <p>Skills:</p> <ul style="list-style-type: none"> ✓ Identify a reason from the extracts that accounts for the worsening of trade balance ✓ Explain how this reason leads to either fall in X or increase in M <p>Trade balance refers to the difference between export revenue and import expenditure. US’s trade balance has consistently been in a deficit and worsened over the years.</p> <p>Possible reason 1: Extract 5 mentions that China was accused of unfair trade practices, implying that they were possibly selling their exports at an unfairly low price. This could have been the reason for the United States importing more goods and services from China. Assuming export revenue of United States remain the same, this would cause the trade balance to worsen.</p> <p>OR</p> <p>Possible reason 2: Extract 5 mentions that the United States had structural issues in their economy, possibly causing its exports to be less competitive than before. Assuming that their demand for exports are price elastic, quantity demanded for their exports would have fallen more than proportionately when there is an increase in price of exports, leading to a fall in export revenue. Assuming that import expenditure remains the same, this would cause the trade balance to worsen.</p> <p><i>1 mark for identifying one reason</i> <i>1 mark for explaining how the reason leads to a worsening of the trade balance in the US</i></p>	[2]

(b)	<p>Using an aggregate demand and aggregate supply diagram, explain how trade wars among United States and China might affect domestic prices levels in Africa.</p>	[5]
	<p>Skills:</p> <ul style="list-style-type: none"> ✓ Explain how US tariffs on China would affect China's economy ✓ Explain how falling national income in China would cause demand for Africa's resources to fall ✓ Explain how fall in AD in African economics lead to decrease in domestic price level ✓ Illustrate leftward shift of AD curve with subsequent effect on GPL <p>Trade wars among United States and China refer to increased protectionist measures against each other's imports. Evidence from Extract 5 show that there were 25% tariffs imposed by the US on steel imports from China. Such tariffs would cause prices of China's steel exports to be artificially higher, leading to a fall in export revenue (X) in China. As X is a component of AD, China's AD would decrease. This causes China's national income to fall and a fall in production of goods and services.</p> <p>According to Extract 5, China is a major importer of Africa's resources and commodities for its own industries. As China's production of goods and services has fallen, they would demand fewer resources from Africa causing Africa to experience falling export revenue. This would cause a leftward shift of Africa's AD curve from AD0 to AD1, causing domestic price levels in African economies to fall.</p> <p><i>2 marks to explain effect of trade wars on China's national income 2 marks to explain subsequent effect on Africa's domestic price levels 1 mark for correct diagram on Africa's domestic price levels</i></p>	
	<p>Explain why the Nigerian government might consider it a rational decision to delay its participation in the African Continental Free Trade Area.</p> <p>Skills:</p> <ul style="list-style-type: none"> ✓ Explain the benefits of participating in the AfCTA ✓ Explain the costs of participating in the AfCTA ✓ Explain how decision was rational by weighing costs and benefits <p>The benefit of Nigeria participating in the African Continental Free Trade Area is an increased access to markets and a reduction of transaction costs in trade (Extract 6). This could benefit Nigeria's economy if export revenues increase, leading to positive macroeconomic outcomes.</p> <p>However, opening the economy to free trade would also leave Nigeria's firms to be susceptible to an increase in competition, causing many of its uncompetitive firms to shut-down, worsening its economic situation.</p> <p>From the Nigerian government's perspective, the economy might not have been ready to manage the increased competition and able to capitalize on the benefits. For example, table 1 suggests a worsening trade balance while in table 2, growth</p>	[3]

	<p>has also fallen from 2013 to 2017. Therefore, it was a rational decision to delay its participation in the agreement as costs of participation was likely to outweigh the benefits.</p> <p><i>1 mark for explaining the benefit of participation 1 mark for explaining the costs of participation 1 mark for explaining Nigeria government's rational decision</i></p>	
(d)	<p>Assess whether giving priority to private sector investments over public investments is a more appropriate approach in driving higher economic growth.</p> <p>Approach to question:</p> <ul style="list-style-type: none"> i. Unpack private sector investments and public investments ii. Explain how private sector investments drive higher economic growth iii. Explain the challenges of private sector investments driving higher economic growth iv. Explain how public investments drive higher economic growth v. Synthesize with economic criteria whether private sector investments is more appropriate than public investments <p>Angles for evaluation:</p> <ul style="list-style-type: none"> i. Judgement of the extent of priority given to private sector investments in developed vs developing countries ii. Discussion of conditions needed for private sector investments to drive higher economic growth (e.g. nature of industries) <p>* examples of evaluative comments in the suggested answers are highlighted</p> <p>Introduction: Private sector investments refer to investments made by profit driven private companies which are not controlled by the government. Public investments refer to government spending on goods and services, usually on large scale infrastructure or services like healthcare and education. Both contribute to economic growth through investments (I) and government expenditure (G) respectively. Whether more priority should be given to private sector investments over public investments to increase economic growth depend on the types of industries invested in and the current state of the economy.</p> <p>Thesis: Private sector investments can drive higher economic growth as it boosts competitiveness.</p> <p>As private firms are profit maximisers, encouraging private sector investments would encourage competition between firms. With increased competition, firms are incentivized to innovate and find more productive methods to become more cost efficient and increase the quality of their products. Moreover, Extract 8 mentions that global companies bring along their technical and management techniques and upgrade the skills of local workers they employ. This transference of skills increase the quality of resources. With an increase in productivity and a fall in cost of production in the economy, the SRAS and LRAS will increase. In addition, increased competitiveness could lead to increase export revenue as the country's goods and services become more attractive. This leads to an increase in AD. Both effects drive higher actual and potential growth.</p>	[8]

Counter-argument: Private sector investments may only concentrate in certain sectors benefiting a small part of the economy.

While increase private sector investments improve productivity and create more jobs, they may be concentrated in only a few sectors. For example, Extract 8 explains that many of the FDI flowing into the South Africa are in financial services, real estate developments and other businesses, which constitute of jobs amongst the urban middle class. On the contrary, most of South Africa's population have lower skills and are unable to benefit from the job opportunities and higher wages. Employment levels may not have improved much and growth is only contained amongst a small proportion of the economy. Hence, this leads to an unequal distribution of economic growth and could limit the sustainability of the growth as South Africa's potential is not maximised.

Anti-Thesis: Public investments can also drive higher economic growth by laying foundations for skills training and in industries requiring large capital outlay.

The government can drive higher economic growth by ensuring and efficient network industries such as roads, rail, telecommunication and ports. The government plays as important role as such industries which require large fixed costs as many firms do not have the ability to fund such projects. For example, in extract 8, it is important that the South African government supports and make South Africa an attractive location for private sector investments boosting long term growth as it boosts both AD and LRAS.

In addition, as private firms are only interested in maximizing their own profits, they will only train workers to the point where $MPB= MPC$, not considering the positive externalities to the entire economy. This is especially seen in smaller firms with more constraints in funding. Moreover, the skills that are trained in their workers may be over-specialized to the needs of the company. As skills training is a merit good, governments may need to support and raise the level of skills training across workers in the entire economy (Extract 8). This ensures that workers are employable across industries leading to sustainable and inclusive growth.

Synthesis:

In conclusion, whether private sector investments or public investments should be given priority depends on the nature of the economy. Firms in developing countries may more likely lack the financial ability to fund large scale projects or continual skills training. In many of these countries which do not have the necessary foundations in place yet, public investments is more appropriate in supporting skills training and creating a conducive environment for businesses. Nevertheless, governments should eventually give private sector investments priority to take ownership and prevent over-reliance. This can create a dynamic economy which promotes higher growth in the long run.

Level Descriptors		Marks
L2	An answer which <ul style="list-style-type: none"> • Is developed and balanced, discusses how the importance of both private sector and public investments to drive higher economic growth 	4-6

		<ul style="list-style-type: none"> Has accurate use of economic analysis to show effects on both actual and potential growth Has sufficient use of relevant examples from the extracts 		
	L1	<p>An answer which</p> <ul style="list-style-type: none"> Is balanced but underdeveloped in discussing how both private sector and public investments drive higher economic growth <p>OR</p> <ul style="list-style-type: none"> Is developed but one sided in discussing either private sector or public investments Has explanation which is more intuitive and lacking conceptual support to show effects on both actual and potential growth Has limited attempt to use relevant examples from the extracts 	1-3	
	E2	<p>Well-supported evaluation and reasoned judgement which is based on economic criteria such as effectiveness or appropriateness in given context.</p> <p>Able to give a considered statement after comparing the two strategies</p>	2	
	E1	<p>Some attempt to evaluate but with lack of substantiation</p> <p>No sound considered statement at the end of answer</p>	1	
(e)		<p>Discuss whether the openness to trade in South Africa is likely, on balance, to have a beneficial effect on its economy and population.</p> <p>[10]</p> <p>Approach to question:</p> <ol style="list-style-type: none"> Unpack openness to trade in South Africa Explain how openness to trade in South Africa leads to beneficial effect on economy and population Explain how openness to trade in South Africa presents some challenges on economy and population Synthesize whether it is more beneficial or less beneficial to South Africa using economic criteria <p>Angles for evaluation:</p> <ol style="list-style-type: none"> Dependent on the readiness of firms and labour to compete Dependent on government's policies to help country to capitalize on gains and minimize undesirable effects of openness to trade <p>* <i>example of evaluative comments in the suggested answers are highlighted</i></p> <p>Introduction: Openness to trade refers to the reduction or removal of restrictions on imports to facilitate trade between countries. For example, in Extract 6</p>		

	<p>participation in the African Continental Free Trade area aims to have agreements to facilitate trade, reduce transaction costs and increase flexibilities between countries. Whether openness to trade in South Africa is overall more beneficial to its economy and population depends on the extent of positive effects on both economy and population and the necessary government policies to capitalize on these gains.</p> <p>Thesis: Openness to trade can help South Africa achieve its macro-economic objectives and increase the standard of living.</p> <p>By opening up to trade, firms in South Africa will have increased access to larger markets beyond its geographical boundaries. This will increase opportunities to increase export revenue (X). Assuming that South Africa is currently producing below productive capacity, higher X will increase AD, resulting in an increase in national income, ceteris paribus.</p> <p>Cheaper access to raw materials and resources from other countries will also lower cost of production in South Africa, leading to a rightward shift of the SRAS, also causing an increase in national income and lowering the general price level of South Africa.</p> <p>As demand for goods and services produced in South Africa increases, firms will hire more resources to increase production, leading to lower unemployment rates for the population.</p> <p>As income levels of the population increases, they now can afford more and better quality goods and services, increasing the material SOL. Enjoying free trade with other countries also increases the access to a greater variety and quality of goods and services, further increasing material SOL.</p> <p>With lower unemployment rates, the government can reduce the amount of welfare benefits paid out to the population. Moreover, increased tax revenue collected from corporate firms and households increases the ability for the government to spend on merit goods like healthcare and education services. The improvement in quality and accessibility to these merit goods increases the non-material SOL of the population.</p> <p>Counter Argument: However, Extract 7 mentions that many of the jobs created are in the service-oriented industries which demand higher skills. A large proportion of the population in South Africa is unskilled or semi-skilled (Extract 7 and 8) and may not be able to benefit from South Africa's openness to trade.</p> <p>This could lead to a worsening of income inequality where skilled workers earn higher wages while the lower skilled workers earn lower or no wages.</p> <p>Therefore, the government needs to ensure that it has the policies to upskill workers to remain employable to relevant sectors and capitalize on the gains of trade.</p> <p>Anti-thesis: Openness to trade can make South Africa susceptible economic shifts like increased competition and other countries' trade policies</p> <p>On the contrary, openness to trade can be harmful to South Africa if they are unable to withstand the increased competition from other countries. According to Extract 7, the manufacturing sector is shrinking as they are now unable to</p>	
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	<p>compete with manufacturing economies of Asia such as China, India and Vietnam etc. who can produce similar goods and services at lower costs. This will lead to a fall in (X-M) of South African and reduction in AD, contributing to a falling national income. Evidence from table 2 notes that South Africa's GDP growth rates were falling from 2013 to 2017 and remain relatively low. This would affect the material SOL of the population.</p> <p>In addition, if South Africa becomes too reliant on exports for growth, they are also susceptible to the effects of changing trade policies of the countries. Extract 5 mentions that the impending trade wars amongst major economies could negatively impact African economies which export commodities to these countries.</p> <p>Synthesis: In conclusion, while there are many benefits to be reaped from South Africa opening to trade, the extent of these benefits is dependent on the readiness of firms and labour to compete with the rest of the world. It is paramount that the government implements structural and labour reforms to manage the challenges from opening up to trade, ensuring that growth is sustainable and inclusive.</p>																
	<table border="1"> <thead> <tr> <th colspan="2">Level Descriptors</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>L2</td><td> <p>An answer which</p> <ul style="list-style-type: none"> Developed and balanced, discusses how openness to trade in South Africa have both positive and negative effects on the economy and population Has accurate use of economic analysis Has sufficient use of relevant examples from the extracts </td><td>5-7</td></tr> <tr> <td>L1</td><td> <p>An answer which</p> <ul style="list-style-type: none"> Is balanced but underdeveloped in discussing how openness to trade in South Africa have either positive and negative effects on either the economy or population <p>OR</p> <ul style="list-style-type: none"> Is one-sided but developed Has economic analysis but lacking in depth or has some inaccuracies Has limited attempts to use relevant examples from the extracts and answer is more rehearsed rather than contextualizing to South Africa </td><td>1-4</td></tr> <tr> <td>E2</td><td> <p>3 marks for answers with a sound conclusion that can give conditions for openness to trade to be overall beneficial</p> <ul style="list-style-type: none"> For South Africa to benefit from openness to trade, they have to ensure that the labour and firms are ready to compete with the rest of the world The government has to ensure that it has mitigating policies such as structural and labour reforms to manage the challenges from opening up to trade <p>Well-supported evaluation and reasoned judgement in weighing the benefits and costs of opening up to trade</p> </td><td>2-3</td></tr> <tr> <td>E1</td><td>Some attempt to evaluate but with lack of substantiation</td><td>1</td></tr> </tbody> </table>	Level Descriptors		Marks	L2	<p>An answer which</p> <ul style="list-style-type: none"> Developed and balanced, discusses how openness to trade in South Africa have both positive and negative effects on the economy and population Has accurate use of economic analysis Has sufficient use of relevant examples from the extracts 	5-7	L1	<p>An answer which</p> <ul style="list-style-type: none"> Is balanced but underdeveloped in discussing how openness to trade in South Africa have either positive and negative effects on either the economy or population <p>OR</p> <ul style="list-style-type: none"> Is one-sided but developed Has economic analysis but lacking in depth or has some inaccuracies Has limited attempts to use relevant examples from the extracts and answer is more rehearsed rather than contextualizing to South Africa 	1-4	E2	<p>3 marks for answers with a sound conclusion that can give conditions for openness to trade to be overall beneficial</p> <ul style="list-style-type: none"> For South Africa to benefit from openness to trade, they have to ensure that the labour and firms are ready to compete with the rest of the world The government has to ensure that it has mitigating policies such as structural and labour reforms to manage the challenges from opening up to trade <p>Well-supported evaluation and reasoned judgement in weighing the benefits and costs of opening up to trade</p>	2-3	E1	Some attempt to evaluate but with lack of substantiation	1	
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1. Singapore government is set to raise GST from 7% to 9% sometime between 2021 and 2025, depending on the state of the country's economy / economic growth. It will also increase the GST Voucher cash pay-outs when the GST is increased, to provide more help to lower-income households and seniors.

Source: Straits Time, 20 February 2018

Discuss how the combination of an increase in GST and rising economic growth might affect expenditure by consumers on different types of products. [25]

Approaching the question:

- **Unpacking** the effects of each change in question:
 - Using PED to explain the effects of GST on consumer expenditure (CE) on different types of products e.g. luxury goods and necessities.
 - Using YED to explain the effect of higher economic growth on CE on different products.
- **Weighing/considering the effects** of concurrent changes (of both GST and economic growth increases), making considered conclusions on whether CE will rise or fall.
- Evaluation will include factors that will contribute to the outcomes, such as government's mitigation measures to help lower income households deal with effects of GST rise.

Introduction

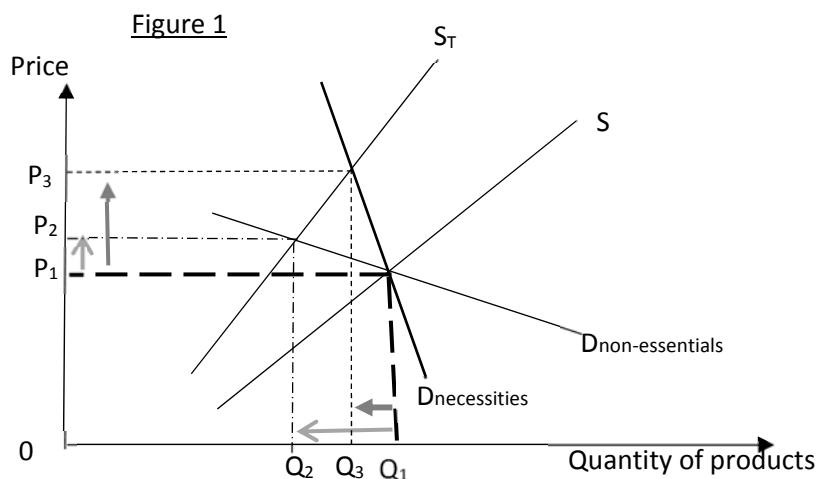
- Consumers' total expenditure is the product of price and quantity bought (price x quantity demanded). Price is determined by the demand and supply of the good. **Demand** is the willingness and ability to pay for a goods at given prices at a given time ceteris paribus. **Supply** on the other hand is the producer's ability and willingness to sell or produce the good at given prices in a period of time ceteris paribus.
- The **overall effects** of the combined changes of higher GST and economic growth on different goods **depends on these two critical forces:**
 - Whether demand for a good is price inelastic or elastic in demand
 - Whether demand for a good will rise or fall in response to higher earnings from higher economic growth
 - The extent of change in demand from income change

Considering how GST affects CE on different products: CE will rise if demand for good is price inelastic, vice versa for those goods with price elastic demand

- **GST** is an indirect tax paid through the producers / sellers on the consumers' behalf. An Increase in GST by 2% will cause **SS curve to pivot out to the left**, shifting upward and the gap between old and new SS curves is larger for higher prices as GST is in percentage. This supply shift will cause prices to rise towards higher equilibrium points and quantity will fall towards lower equilibrium points.
- **Prices will tend to rise more for products or consumers which are less sensitive to price increases. The impact of higher GST on CE arising from the increase in price can be explained by using the concept of price elasticity of demand (PED).**
- PED refers to the degree of change in quantity demanded in response to a change in the price of the good. PED differs between goods and for a specific good, between consumer groups, determined by **extent of substitutes, importance in consumption and consumers' income**. Differentiate between price elastic and inelastic demand. Demand for

necessities such as food products can be considered price inelastic, while demand for non-essentials such as electronic products and luxury goods can be considered price elastic. Also, PED of food products will be lower for higher income consumers as the expenditure takes a smaller proportion of their income, while the PED will be higher for lower income consumers. Demand for high end products which have niche markets can be considered price inelastic as these goods have limited substitutes, offer high quality, cater to high income market, hence consumers' demand for them will not be responsive to price change.

- For a given increase in GST, equilibrium price will increase more than the equilibrium quantity if demand is price inelastic. This steep increase in price will have strong influence on CE, resulting in rising CE. For price elastic demand, while equilibrium price will still go up, the increase is to a smaller extent than the decrease in quantity demanded. The more significant fall in quantity demanded will push down CE, resulting in lower CE.



- As seen from figure 1 above, a leftward shift in supply curve due to the increase in GST causes a **larger increase in price of goods with inelastic PED** like food (to P_3) than the increase in the price of products with price elastic demand (to P_2).
- Generally, goods with price inelastic demand, whether due to their characteristics or the income level of consumers will see CE rising due to increased GST. With price inelastic demand, sellers have greater ability to transfer the GST increase to consumers.

Considering how economic growth affects CE on different products: CE will rise for goods with positive income elasticity of demand (YED), vice versa for those with negative YED

- Economic growth is the **rate of increase in GDP**. GDP is the monetary value of goods and services produced in a country within a period. Higher economic growth means GDP rises at a larger rate of increase. This can make possible job creation and rising household earnings. With higher earnings, households' purchasing power to consume goods and services will rise too.
- Impact of economic growth on CE can be explained using income elasticity of demand (YED). It refers to the change in demand arising from a given change in income. **Goods with positive YED are normal goods**, which means demand will rise. For **inferior goods, demand will fall and YED is negative** because consumers switch to consuming higher quality goods or non-essentials. YED can be elastic or inelastic depending on whether income change or demand change is larger proportionately.
- Effect of higher economic growth on CE depends on whether YED of the product is positive or negative.**

- Normal goods such as luxury goods or goods of higher quality will likely have positive YED. With increase in income, demand will increase, likely leading to a rise in CE.
- Inferior goods such as imitation leather bags, however, have negative YED because consumers are likely to switch to better quality goods i.e. demand and CE fall as income rises.
- **Hence consumer expenditure on normal goods such as luxury products increases with rising income, whereas consumer expenditure on inferior goods falls when the consumers' income rises.**
- The extent of the change in demand, **depends on the magnitude of YED of the different products. For both normal and inferior goods, they can have elastic or inelastic income elasticity.** Students should use examples to illustrate what kind of normal goods will have high or low income elasticity, e.g. cheaper luxuries such as restaurant meals can have higher positive income elasticity due to their affordability, compared to more expensive and less affordable luxuries such as cars and private housing.

Considering the combined effects of GST hike and increase in economic growth [putting together how PED and YED determine net outcomes in CE]

- GST hike can cause households having to spend more in their expenditure on various goods and services. However, with the GST hike taking place during the same period of higher economic growth, changes in CE for different goods and services is also due to shifts in pattern of consumption. Higher purchasing power can cause consumers spending more on higher quality goods.
- **CE will more likely increase for goods which are price inelastic in demand and with positive YED.** These can be goods with some degree of brand loyalty and the quality is high enough to pull in **more demand** due to the income rise. The higher the extent of the positive YED, the greater the increase in demand, therefore, the greater the increase of CE sellers will receive.
- On the other hand, there can be necessities with price inelastic demand and yet becoming inferior goods when income rises. For these goods, **CE may fall. These can be lower end grocery products, such as house brands by supermarket chains.** When household income rises, consumers switch to better and more expensive goods. With this switching, although the price inelastic demand will lead to a hike in price, but the switch towards better quality products or brands actually causes a significant drop in demand, leading to an overall drop in CE.

Evaluation: there are many factors that will determine the PED and YED outcomes of consumer demand, consequentially the changes in CE

- Although this answer refers to house brands as examples of goods with inferior goods, for which due to price inelastic demand the CE can rise but due to negative YED the CE can fall, hence causing the potential of falling CE overall, it is possible for **some house brands to have positive YED** because of reasonable quality they offer to consumers. Lower income households which may make up the majority consumer group may also lack the ability to switch to better products in spite of income rising hence they simply demand more of these products.
- How well sellers can achieve rising CE from rising income depends on **how well they are improving the range and quality of their products** to make these positive and income

elastic demand in nature. With Singapore government pre-emptying earlier about GST hike, sellers that can improve their marketing and branding strategies to take advantage of rising income to draw in consumer demand and raise CE.

- How large the impact of rising income on consumer demand **depends on how much the increase in wages**. Higher GDP growth does not necessarily translate into significant pay rises for households. The increase in household earnings can also be uneven, it could be the higher income employees getting more pay increase, hence it is the goods and services consumed by these employees that will more likely see rising CE.
- **Higher economic growth can also lower PED.** Consumers become less sensitive to price increases due to buoyant economic performance, hence sellers more readily increase prices with GST hikes knowing that their total revenue or CE will rise. This means that **there is a greater likelihood that CE for many goods and services will rise.**
- **Effects on CE are also influenced by government policies.** The Singapore government has promised to increase the **GST cash pay-outs** to the lower income group to help with the rising prices caused by the GST hike. The GST cash pay-outs will increase their disposable income to help them cover the higher expenditure on the various products.
- **CE also depends on sellers' corporate social responsibility in their pricing decisions.** As in the case in 2007 when the GST was increased from 5% to 7%, some big firms like the supermarket NTUC FairPrice absorbed the GST increase for the first few months, cushioning the effect of the increase in price for their customers. If this is done in the next GST hike, and it happens during strong economic growth, impact on CE will be more determined by income change rather than the GST hike.

Note: Answer to pick on just a few of these evaluation factors for discussion in order to provide depth and not mere listing.

Synthesis

- The GST hike will have a **more significant effect on the lower income group** than on the middle and higher income groups since GST has a regressive impact, taking a larger proportion of the earnings of lower income households. Hence the need for government GST pay-outs help them cope with rising expenditure.
- **YED will determine the extent of the change in demand due to the economic growth.** Products of better quality and purchased by higher income groups are likely to see a larger increase in CE than lower range ones.
- GST hike would cause a **larger price increase for products with more inelastic PED. Consumer expenditure on these products will be even higher with a simultaneous increase in demand due to income rise.**
- **Generally, a combination of rising income growth and GST hike leads to CE rising on the various goods, but the extent of the increase in CE is determined by the PED and YED of the different products.**

Knowledge, Understanding, Application and Analysis		
Level	Descriptors	Marks
High L3	<ul style="list-style-type: none"> Conceptually accurate, precise and well-developed analysis of combination of increase in economic growth and GST hike, with strong contextualization to Singapore context 	19 – 21
Low L3	<ul style="list-style-type: none"> Conceptually accurate and developed analysis of combination of increase in economic growth and GST hike, with strong contextualization to Singapore context Sound market analysis – bringing together both shifts and elasticity concepts (PED & YED) in examining the combined effects of GST hike and higher economic growth on CE of different products. Answer shows sound clarity of understanding of the difference between nature (positive or negative) and extent (elastic or inelastic) of YED The explanation may be better in certain products but not as detailed in the other products. 	15 – 18
High L2	<ul style="list-style-type: none"> Conceptually sound in the explanation of demand and supply shifts due to economic growth and GST respectively. Use of PED and YED in determining consumer expenditure on various goods but weak in application of either of these two concepts. Some attempt at application to Singapore context 	13 – 14
Low L2	<ul style="list-style-type: none"> Answer only uses demand and supply shifts to explain combined effects of GST and income change, instead of PED and YED. Answer refers to PED or YED but to a limited extent Not addressing to Singapore context 	10-12
L1	<ul style="list-style-type: none"> Answer is largely descriptive and lacks economic analysis (e.g. not referring to demand and supply concepts), OR Some attempt at using demand and supply framework to answer the question, but no application of elasticity concepts in considering the combined effect if GST hike and rise in economic growth on consumer expenditure on different products. Major conceptual errors 	5– 9
	<ul style="list-style-type: none"> Answer is largely irrelevant or inaccurate, may contain some incidental points Major conceptual errors 	1-4
Evaluation		
Level	Descriptors	Marks
E3	<ul style="list-style-type: none"> Recognizing the significance of some factors such as sellers' and government's responses in influencing the effects of the concurrent GST hike and rising economic growth. Examples: <ul style="list-style-type: none"> <i>Essay considers the factors which influence how PED and YED will vary between different products or between different consumers.</i> <i>Essay identifies how the impact on CE is also dependent on government's mitigation measures for lower income or sellers' corporate social responsibility in their business strategies</i> 	4 – 5
E2	<ul style="list-style-type: none"> Evaluative statements are made, but they remain largely unsubstantiated. Essay may lack a well-reasoned judgement as synthesis <ul style="list-style-type: none"> <i>Essay considers how the nature of PED and YED determines effects on CE but without probing deeper the factors that cause these different circumstances</i> 	2 – 3
E1	<ul style="list-style-type: none"> Simplistic evaluative statements without judgement. 	1

- 2.** According to Euromonitor International, Singapore's grocery retail market was worth S\$4.3 billion in 2016, with the online grocery retail market valued at S\$96 million.
- (a) Distinguish the characteristics of firms operating in oligopolistic and monopolistically-competitive markets. [10]
- (b) Discuss how increased competition in online grocery retailing would affect the survival of traditional supermarket chains like NTUC FairPrice and Cold Storage. [15]

Suggested Approach for Q2(a)

- Identify the characteristics that define a market structure
- For each characteristic, explain how oligopolistic firms differ from monopolistically-competitive firms
- Illustrate with relevant examples how the two market structures differ in the characteristics

INTRODUCTION

The different types of market structure can be distinguished by their characteristics. The basic characteristics that are useful to distinguish the different market structures are number and size of firms, nature of product, and barriers to entry.

BODY

1. Barriers to entry

- Barriers to entry is a characteristic to distinguish between firms in the oligopolistic and monopolistically-competitive markets. While significant barriers to entry are present in oligopolistic markets, there is relative freedom of entry into and exit out of monopolistically-competitive markets.
- In the supermarket industry, strong barriers to entry exist in the form of substantial investments in basic infrastructure (e.g. stores, distribution centres and logistics networks), access to finance (e.g. to fund advertising and promotions), business management capabilities and retail expertise (e.g. managing a chain of stores, having the expertise to manage a diverse range of employees, being nimble with strategies to compete and to grow). High fixed costs involved in running a chain of stores (rentals, wages, utilities, etc.) are a major consideration for any potential entrant into the market.
- On the contrary, bubble tea stores are almost anywhere and everywhere in Singapore because of the relative ease of entry. Apart from a small store space, the equipment, ingredients and expertise needed to run a bubble tea store are not too difficult to acquire. This is especially so in a franchising model whereby the franchiser licenses its know-how, procedures, intellectual property, use of its business model and brand, and the rights to sell its branded products and services to a franchisee. Many entrants into the bubble tea business are either franchisees or overseas ventures of big bubble tea brands from Taiwan.

2. Number and size of firms

- Due to relatively strong barriers to entry, an oligopolistic market is dominated by a small number of large firms while a monopolistically-competitive market is characterised by a large number of small firms (but not as large a number as in perfect competition).
- For example, traditional supermarket chains belong to an oligopolistic market structure. In Singapore, most of the supermarket stores belong to 3 major groups namely NTUC FairPrice, Dairy Farm International Holdings (DFI) and Sheng Siong. Leading grocery retailer, NTUC

FairPrice has a market share of 34% with 136 supermarket stores (FairPrice, Finest, Xtra) and 183 convenience stores (Xpress, Cheers) under its name. Meanwhile, competitor DFI has 126 supermarket stores (Cold Storage, Market Place, Jasons, Giant) and around 400 convenience stores under the 7-Eleven brand.

- A good example of a monopolistically-competitive market structure is the bubble tea industry. These stores are easily found at every neighbourhood corner. There are chains like Koi, LiHo, Sharetea, Each A Cup and itea, sharing the market with many other Taiwanese brands like Gong Cha, Playmade, R&B Tea, Yuan Cha, Chatime and Woobbee. As recent as Jun-July 2018, we saw new openings by Taiwanese big names, i.e. Ten Ren at ChinaTown point and TP Tea with its 24-hour bubble tea shop at Changi Airport.

3. Nature of product

- We can also distinguish between oligopolistic and monopolistically-competitive firms in terms of their products. While products sold by firms in oligopolistic market structure can be either identical/homogeneous (e.g. steel) or differentiated (e.g. cars), those sold by monopolistically-competitive are generally close substitutes.
- In our example of supermarket chains, the products sold at their stores are similar e.g. rice, sugar, washing detergent, toiletries, dried food, fresh produce. They are usually differentiated by the brand names and even then, certain brands are found in all supermarkets, e.g. Royal Umbrella rice, SPIN detergent, Scotts toilet roll, etc.
- In the monopolistically-competitive bubble tea market, the products are similar but not identical. For instance, the drinks come in various bases such as brewed tea (black tea, red tea, green tea, oolong, etc.), milk tea, cheese tea, fruit tea and juices. There is even one which has differentiated itself with alcohol bubble tea. In terms of toppings, bubble tea competitors have gone beyond the basic bubbles (tapioca pearls – different size, colour and flavour) to a wide range including jelly, fruits, beans, pudding, jam and mochi.
- Product differentiation in monopolistically-competitive firms is usually superficial, i.e. not significant enough to eliminate other brands as substitutes. Because the different bubble tea brands are close substitutes, they have positive and high values of cross elasticities of demand. The goods perform the same basic functions but have differences in qualities (e.g. quality of tea used), style, reputation, appearance and location to distinguish them.
- Supermarket chains differentiate themselves in terms of branding and services rendered. For instance, DFI (so does FairPrice) has different store formats to cater to different income groups – its Giant brand targets the lower income segment or the budget-conscious customers, Cold Storage stores target the middle to upper income group, while Market Place and Jason's cater to the high and upper middle income customers.

CONCLUSION

The characteristics of oligopolistic firms result in them having a relatively more price inelastic demand than firms in monopolistically-competitive markets. Differences in their characteristics in turn determine these firms' behaviour and performance in the markets in which they operate.

MARK SCHEME FOR Q2 (a)

Level	Descriptors for Q2 (a)	Marks
L3	<ul style="list-style-type: none"> Takes a comparative approach when explaining the differences between oligopolistic and monopolistically-competitive market structures Strong grasp of economic analysis and conceptual understanding (minor inaccuracies may still be present) Well-contextualised and supported with relevant examples Answers are well-organized and coherent 	8-10
L2	<ul style="list-style-type: none"> Explanation of characteristics but no clear distinction between both market structures → CAP at 7 marks for answers without a comparative approach Uses economic analysis but may contain some conceptual inaccuracies Largely theoretical/rehearsed, lacking in examples Undeveloped explanation of the characteristics e.g. lacking in clarity 	5-7
L1	<ul style="list-style-type: none"> Descriptive or a mere listing of points, lacking economic analysis Contains major conceptual errors Largely irrelevant to the context 	1-4

Suggested Approach for Q2(b)

- Unpack key terms, i.e. ‘increased competition’ and ‘survival’*
- Establish the relationship between online grocery retailers and traditional supermarket chains*
- Explain how increased competition in online grocery retailing would affect traditional supermarket chains – both negative and positive effects*
- Use criteria to assess the overall impact of online grocery retailing might have on traditional supermarket chains*

INTRODUCTION

Increased competition in online grocery retailing implies that there are more online sellers of groceries (increase in supply). This in turn implies increased competition for traditional supermarket chains because of the substitutability of grocery items sold by online retailers and traditional supermarkets. How this increased competition affect the survival of traditional supermarkets would depend on how these supermarkets respond to competition in a changing retailing environment.

BODY

THESIS ARGUMENT: Increased competition in online grocery retailing would adversely affect the survival of traditional supermarket chains like NTUC FairPrice and Cold Storage

- With rising popularity in online grocery retailing, traditional supermarkets could see a fall in their revenue and market share. Reasons for rising online grocery sales include the following:
 - Convenience of being able to shop anytime and anywhere
 - Less hassle shopping online, e.g. no need to deal with crowds or standing in line – what is usually purchased online is not something which is immediately needed, hence consumers are willing to wait days for their delivery rather than time queueing at supermarkets
 - Less ‘overhead expenses’ when shopping online (shopping at physical stores could involve stopping by for a meal, impulse purchases, parking fees, transportation costs, etc.)
 - Ease of online grocery shopping – not only via the computers but also phone apps as well

- With more online grocery retailers competing for the consumer dollar, there are many perks such as free shipping and free returns which further enhance perks of online shopping as mentioned above, especially for working adults who may not have the time to shop at supermarkets during weekdays.
- Due to increased competition from online grocery retailers, the market share of traditional supermarkets is likely to decline. The demand for their groceries could fall and also become more price elastic in light of close substitutes provided by online grocery retailers. Given the high fixed costs of supermarkets, and assuming no fall in average costs, any fall in revenue would therefore result in lower profits.

COUNTER ARGUMENT: Traditional supermarket chains may continue to survive and even thrive despite competition from online grocery retailers

- All is not doom and gloom for traditional supermarkets despite increased competition in the grocery retailing market. Despite growing online grocery sales in recent years, traditional supermarkets still take up more than 90% of the market. There is still optimism that supermarkets will remain strong in the next few years. As consumers continue to make use of all grocery retail channels (modern or traditional), any grocery retailer that is able to identify areas of consumer demand will be the biggest beneficiaries – be it online or traditional stores.
- Traditional supermarkets can continue to survive amidst rising competition from online grocery retailers if they successfully carry out targeted strategies to improve their profits. These strategies can be directed at managing costs, or to sustain a strong growth in revenue.

STRATEGIES TO REDUCE COSTS

- Supermarkets still have the **benefits of scale** which online grocers may not enjoy. Because of the many stores in their chains, traditional supermarkets have a greater scope to enjoy economies of scale from bulk purchases, marketing and advertising, etc. They have also made efforts to reduce fixed costs, for instance having self-checkout lanes to reduce queuing time at the cashiers. Such measures save on manpower costs, which is a major fixed cost item and an item which can only see rising cost given our tight labour market. The benefits of internal economies of scale can be passed on to consumers in terms of competitive prices.
- Supermarkets have also expanded their range of **house-brand and private-label items**. House-brand items are cheaper than other labels as supermarket chains cut down on intermediary costs and advertising. Surveys by marketing research agency, Nielsen, have shown that consumers are increasingly more receptive to house brands as supermarkets shed their image of house brands being low quality and inferior to other name labels. FairPrice and Cold Storage each has more than 2,000 house-brand items and Giant has more than 1,500. According to FairPrice, their house-brand items are priced 10-15% lower than comparable products; the sub-brands under the HouseBrand umbrella include FairPrice Housebrand, FairPrice Gold, Pasar, Home Proud and Budget. In 2017, amidst concerns that prices of infant milk formula have increased at twice the pace of median income, FairPrice launched its FairPrice Gold house-brand formula milk for children up to the age of three. Sourced from Australia, the formula milk costs only about half the price of some premium brands.

STRATEGIES TO BOOST REVENUE

- **Partnerships with firms in complementary business:** Traditional supermarkets like FairPrice, Cold Storage, Giant and Sheng Siong already offer online shopping for their groceries. If they can enhance this online channel to increase overall sales, they can compete better with online-only grocery retailers such as Redmart, Fresh by honestbee, Gofresh and EAMART. FairPrice has also partnered honestbee, a concierge/delivery services company for an added platform to market their products. This means that consumers can also shop for FairPrice groceries on the honestbee website. In light of growing interest in online shopping, traditional supermarkets can also strengthen their foothold in grocery retailing by teaming up with tech giants or e-commerce firms to explore new platforms for them to widen their consumer base.
- **Strengthening their foothold on food groceries:** While online grocery shopping has gained popularity, and there are specialised online stores for meats, fishes, fruits and vegetables, consumers generally still prefer to purchase food groceries at physical stores. Supermarkets remain the popular choice for food groceries, especially for working adults who find it more convenient than going to the wet market during the weekend. Therefore, supermarkets should continually raise standards on freshness to ensure that consumers continue to make in-store purchases.
- **Improving the overall shopping experience and service quality:**
 - To entice a bigger crowd and to secure a loyal customer base, supermarkets can also improve the overall shopping experience. For example, they can hold events like product launches, food fairs, chef demonstrations, in-store competitions, etc.
 - Supermarkets have also introduced other shopping perks such as the ‘click-and-collect’ mode of shopping for consumers who prefer to save time by ordering online but still prefer to collect the purchases themselves.
 - The impact of online grocery retailing is probably felt the most in bulk purchases (e.g. packaged drinks, personal-care and home-care products) which can be heavy to lug home. Supermarkets have tried to work around this by offering free delivery services, or at minimal charges, for purchases above a certain amount. This helps to retain customers who prefer to shop at the physical stores.
 - Other attractions could be bundling of online-offline promotions whereby purchases made online would entitle the consumers to enjoy certain promotional offers when they make in-store purchases.

CONCLUSION/SYNTHESIS

- The extent of supermarkets' ability to survive depend on the success of the strategies explained above. Market research by Euromonitor International and securities firms have shown that online grocery retailers have not been able to break into the dominance of traditional supermarket chains in Singapore. While online grocery retailing has caused an impact, they are not seen to be a significant threat for the supermarkets in the next few years.

Just for info: Research by securities firm Maybank Kim Eng showed that growth of online grocery sales has dropped from 56% in 2016 to 35% in 2017. This was largely attributed to the slower growth in sales of RedMart, Singapore's leading online grocery retailer. While revenues grew, RedMart also experienced rising costs (online space and tech maintenance, warehouse space, labour for logistics and delivery, advertising on multiple social media channels) and made losses in 2015 and 2017. [Statistics: warehouse space rose from 3,000 sq ft in 2011 to 150,000 sq ft in 2017; office space from 200 sq ft to 18,000 sq ft; staff strength from 3 to 1,200.]

- While online grocery retailing appears to be still at an infancy stage and has several obstacles to overcome, it certainly has the potential to be a more popular channel in the future. Therefore, traditional supermarket chains should not be complacent but take this transition period as an opportunity to adapt to evolving consumer behaviour.
- Shopping remains very convenient in Singapore, with the proliferation of HDB and mall supermarkets. Although housing estates are densely packed, last-mile logistics is expensive and reducing delivery cost is key to profitable last-mile fulfilment (*note: last mile is the last leg of the delivery process from the distribution centre to the end user*). Traditional supermarkets can take advantage of this (which is a big cost concern to online grocery retailers) to grow their scale further in order to improve efficiency in their operations, and hence improving profit margins.
- The modern grocery retail market is dynamic. Consumers' needs are frequently changing, especially in light of a globalised world where increased physical and virtual connectivity allow firms the opportunities to meet consumers' expectations and stay ahead of the competition. Against this backdrop, traditional supermarkets must continue to look for innovative ways to thrive. One possible path is for the traditional and online channels to converge, i.e. going the omni-channel route, a type of retailing which integrates the different methods of shopping available to consumers.

MARK SCHEME FOR Q2 (b)

Level	Descriptors for Q2 (b)	Marks
L3	<ul style="list-style-type: none"> Developed and balanced analysis of the supermarkets' strengths and challenges, in view of increased competition from online grocery retailing. Strong economic analysis (with perhaps some minor conceptual inaccuracies) Well-contextualised and supported with relevant examples Answers are well-organized and coherent 	8-10
L2	<ul style="list-style-type: none"> Balanced but under-developed answer, e.g. considers both strengths and challenges but explanations lack the depth Developed but one-sided answer, e.g. why supermarkets can <u>or</u> cannot survive Uses economic analysis but may contain some conceptual inaccuracies Limited use of examples, or examples are not very contextualised Undeveloped explanation of the characteristics e.g. lacking in clarity CAP at 6 marks if answers focus on strategies, but without effects on survival 	5-7
L1	<ul style="list-style-type: none"> Descriptive or a mere listing of points, lacking economic analysis Contains major conceptual errors Largely irrelevant to the context 	1-4
E3	<ul style="list-style-type: none"> Well-reasoned judgement, with strong conceptual substantiation and relevant criteria 	4-5
E2	<ul style="list-style-type: none"> Attempts to support judgement with concepts and criteria, but may lack clarity in wrapping up the arguments or pulling together a cohesive synthesis 	2-3
E1	<ul style="list-style-type: none"> Superficial judgement, largely unsubstantiated 	1

Suggested Answers for 2018 Econ H2 Prelims Paper 2

Essay Question 3:

3(a)	Explain how imperfect and asymmetric information can lead to market failure in the markets for healthcare services and healthcare insurance.	[10]
(b)	Discuss whether joint provision is the most appropriate policy to correct the market failure in Singapore's healthcare services.	[15]

Suggested approach to 3(a)

3(a)	Explain how imperfect and asymmetric information can lead to market failure in the markets for healthcare services and healthcare insurance.	[10]
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Question Requirement:

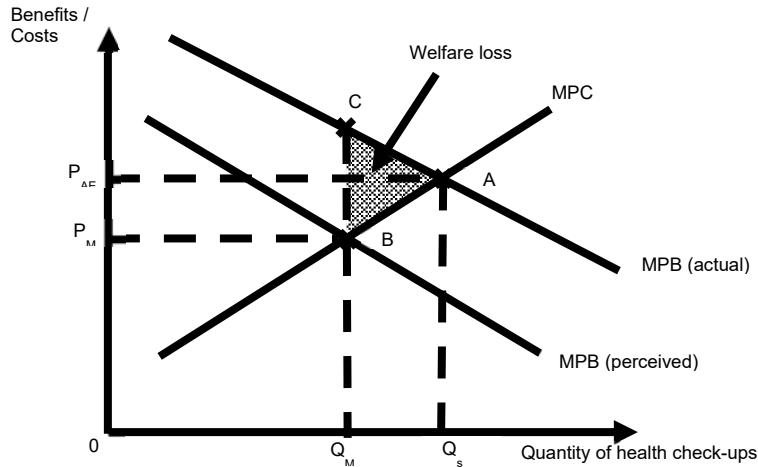
- Explain how imperfect information exists in 1) healthcare services market and asymmetric information in the 2) healthcare insurance market
- Explain how the sources can lead to market failures.
- Use of diagram(s) should help in explanation but not compulsory.

Introduction:

Market failure exists when resources are not allocated efficiently, therefore leading to welfare loss in the society. Imperfect information exists when the economic agents do not have perfect information about the product/service. Asymmetric information is when one party has more information than the other. There is imperfect information in the market for healthcare services and asymmetric information in the market for healthcare insurance. Therefore, without any form of government intervention, both markets fail.

Point 1: Imperfect information leads to under-consumption of healthcare services.

Economic agents may have **under-estimated the true private benefits** for themselves in the consumption of healthcare services, such as vaccinations, doctor consultations. For example, they may not see the doctor when they are sick if they underestimate the seriousness of their illness. As a result, the virus may spread to other healthy people close to the patient. In other times, the sick person may also over-estimated the costs of consuming the healthcare services, thereby refusing treatments and/or consultations. As rational economic agents, they will only consume healthcare services up to a point when their perceived marginal private benefit is equal to their marginal private cost. However, due to imperfect information, the true private benefits of the consumption of healthcare services is higher than the estimated marginal private benefit, there will be an **under-consumption of healthcare services, leading to market failure.**



As seen from the diagram above, the socially optimal level of consumption of healthcare services should be where the marginal private benefits (actual) equal to the marginal private cost, Q_s . However, because of imperfect information, the market level of consumption is only at Q_m , where the marginal private benefit (perceived) equals to the marginal private cost. As Q_m is lower than Q_s , there is under-consumption of healthcare services, therefore the market for healthcare services fails.

Point 2: Asymmetric information leads to market failure in the healthcare insurance market (adverse selection and moral hazard).

In the health insurance market, consumers have to pay insurance premiums when they purchase health insurance. These premiums are often linked to their health status/conditions. The better the health condition, the lower the insurance premium. Therefore, **some consumers may hide certain bad habits such as smoking or their true physical medical conditions from the health insurers, in order to pay lower premiums.** Without any form of intervention, health insurance companies may not be able to ascertain whether the information provided by the consumers are factual or not. Therein, this means that the consumers will have more knowledge about their own medical conditions than the health insurers.

As a result of such asymmetric information, the **health insurers may charge higher premiums for all consumers, therefore squeezing out the consumers who indeed have healthy medical status**, as they are less willing to pay for such high premiums since they are healthy. It is likely that the market may be left with those who have poor medical health, who are willing to pay the higher premiums if they view that the premiums can be offset by the sum they are insured of. This is a situation of **adverse selection**.

On top of that, after the consumption of health insurance, some consumers may be **more reckless in their consumption habits**, since they know they are insured. As a result, they may engage in more risky behaviour such as drinking and binge eating, as their medical costs can be claimed from the insurance companies. Insurance companies may end up having to fork out more insured payments, as a result of this moral hazard. This leads to wastage of resources.

Conclusion:

In conclusion, there is market failure in both markets for healthcare services and market for health insurance. The government will have to implement appropriate measures to reduce the imperfect information and asymmetric information in these markets, so as to achieve maximum social welfare and a socially optimal level of resource allocation.

Things to note:

- It is possible that students may explain asymmetric information in the consumption of medical services, where doctors have more information than the patients, hence leading to over-consumption of prescribed but not necessary treatments.
- **However, please take note that the focus of asymmetric information is still the result of adverse selection and moral hazard, therefore, it is still crucial for students to explain this in their answers.**
- In economics, the concept “***imperfect information***” entails **BOTH** under/over estimation of benefits/costs **AND** asymmetric information (where one party has more/less info than the other party).
- **Students are expected to explain BOTH situations even if question has only the term “imperfect information”.** This means that moral hazard and adverse selection should be included in the answers too.

Marking scheme:

Level	Descriptors	Marks
L3	<p>For an answer which:</p> <ul style="list-style-type: none"> • Explains both sources of market failure in the two markets [e.g. explain imperfect information in healthcare services AND asymmetric information in insurance market] • Max of 8m for answers that explain accurately how imperfect information AND asymmetric information lead to market failure only in the market for healthcare services. • Good and accurate use of economic analysis • Has sufficient support with good examples 	8 - 10
L2	<p>For an answer which:</p> <ul style="list-style-type: none"> • Either only explain one source of market failure in either markets (max 6m) [E.g. only imperfect information in healthcare services OR only asymmetric information in insurance market] • Explain either sources of market failures with some use of economic analysis but contain several inaccuracies • Attempts to support answers with some examples 	5 - 7
L1	<p>For an answer which:</p> <ul style="list-style-type: none"> • List the various sources of market failure without economic explanation. • Has no or minimal contextualised to either of the markets • Contains several gross inaccuracies • Does not have any examples used 	1 – 4

Suggested approach to 3(b)

(b)	Discuss whether joint provision is the most appropriate policy to correct the market failure in Singapore's healthcare services.	[15]
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Question requirement:

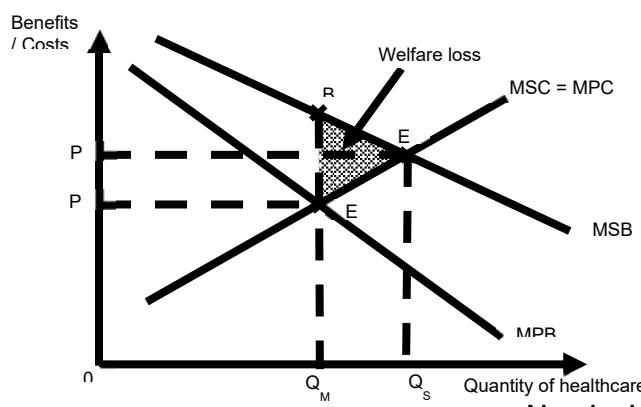
- Explain what it means by joint provision, in the context of Singapore's market for healthcare services
- Explain how joint provision can address the market failure in this market
- Explain the limitations/challenges about joint provision
- Explain how two other policies are required as well, which can address the limitations posed by joint provision.
- Synthesis and make a stand on the appropriateness of joint provision by taking into account the changing demographics also the short vs long-term sustainability.

Introduction:

Joint provision in the medical services means that medical services are provided jointly by the private sector and the government. In Singapore, there are public restructured hospitals such as Tan Tock Seng Hospital, Changi General Hospital as well as those private ones such as Gleaneagles Hospital, Raffles Hospital. The intent of the Singapore government to intervene by joint provision is to correct the under-consumption and under-provision of healthcare services in Singapore's market. Whether joint provision is the most appropriate policy is dependent on whether it addresses the root cause of the problem and also the nature of the country itself.

Point 1: Joint provision is appropriate because it is able to correct the market failure in the healthcare market in Singapore.

Joint provision is able to address the problem of under-consumption of healthcare services. The private medical producers will only take into account their own marginal private benefits (mainly potential revenue earned by the provision of these services) and their marginal private cost (operating costs) and hence, will **only provide healthcare services, up till the market equilibrium level of healthcare, Q_m , which maximises their profits**. However, the socially optimal level of provision should be where marginal social cost (MSC) equals to the marginal social benefits (MSB). Therefore, the **government can intervene in by providing the remaining $Q_m Q_s$ level of healthcare services**. In this way, the provision of healthcare services can be at the optimal level, Q_s , where the social welfare is maximised. At the same time, joint provision also **increases the level of competition** among the healthcare providers. The higher level of competition should **encourage more competitive pricing** for the healthcare services, which can **increase the quantity of healthcare services consumed**.



In the context of Singapore, there are polyclinics and private clinics in the provision of primary healthcare services (such as doctor consultations for common ailments like influenza, fever etc.). In the secondary healthcare services such as X-rays, invasive surgeries etc, there are restructured hospitals and private hospitals providing such services. **If there are only the private healthcare providers in both the primary and secondary medical sectors in Singapore**, the private healthcare providers tend to **charge prices which may be unaffordable to the low-income families**. Moreover, these private providers tend to **cherry-pick by providing healthcare services in the sectors that are most profitable for themselves**, such as cosmetics surgeries, invasive surgeries, rather than outpatient treatment. This may result in a **gap for the provision of essential medical services**, especially for the low income families, **worsening the inequity issue in Singapore**. Therefore, **the need for government healthcare providers in both the primary and secondary sectors are to address the gap of under-consumption and for equity reasons**.

Point 2: Joint provision may not be so appropriate as it has its limitations in addressing the market failure problem

Joint provision may not be able to fully correct the problem of market failure as it is **difficult to accurately ascertain the amount of QsQm to provide**. In order to estimate accurately, the government will need to have accurate data and information. Some external benefits and costs in the provision of healthcare services are intangible in nature, for example, it is difficult to calculate the monetary value of a more productive workforce as a result of the provision of healthcare services. This makes the computation of MSB and MSC difficult. **[Evaluation:]** However, in the case for Singapore, this **limitation is not as severe as Singapore has systematic data collection**, therefore the Singapore government usually has sufficient and accurate data to estimate the amount of provision needed.

Sometimes, even with joint provision, the healthcare services could still be **too expensive** to the poor, discouraging them from the consumption of healthcare services. Therefore, the consumption of the healthcare services may still be under-allocated. In recent times, **healthcare costs have been rising due to a rise in demand for healthcare services across all sectors**. This is made worse, especially by the private healthcare providers cherry-picking the provision of medical services that are most profitable for themselves. There could also be the problem of **supply-induced demand** where the healthcare providers may have more medical knowledge and information than the patients, **resulting in the providers recommending certain treatments/surgeries to the patient, driving up the demand and hence, prices of such treatments**. Without any form of financial support from the government, the cost of the treatments could be too expensive for the consumers. Overall, **joint provision, while it can increase the provision of healthcare services, it is not sufficient to work on its own** to fully address the market failure in the Singapore's market for healthcare services.

Point 3: Subsidies is also needed to complement joint provision so as to improve accessibility for the poor.

There is a need to complement the use of joint provision with subsidies to correct the under-consumption of healthcare services in the Singapore's market. Subsidies can help to **reduce the cost of operating** and hence, **reducing the prices of the medical services**. Targeted subsidies given to the poor can also directly offset the out-of-pocket expenses for them. In Singapore, the poor / less privileged pay a subsidised consultation and/or hospitalisation fees. In this way, subsidies can help to resolve the unequal accessibility issue in the market for healthcare.

However, provision of subsidies is **not a long-term solution** as it is taxing on the government budget to finance such subsidies in the long term. This problem may be especially more severe as Singapore's population ages, and there will eventually be a growing pool of old and poor families. **[Evaluation:]** Singapore circumvented this limitation by providing **target subsidies instead of blanket subsidies**. This is done through **means-testing**, where the households from lower income will receive greater subsidies from the Singapore government.

The Singapore government also provides subsidies to help the low-income families through the private healthcare providers. This can be seen by how some private clinics offer subsidised consultation fees for pioneers and elders, holding the senior citizens' pass and the Community Health Assist Scheme (CHAS) card.

However, subsidy is only a **corrective measure**, rather than a preventive measure. As Singapore's population ages, the demand for and prices of healthcare services will only increase in the future. As such, it is **necessary to also complement** joint provision and subsidy policy with a **long-term preventive measure** such as **public education**, to promote healthy and active living through correcting the mind-set and behaviour of the consumers.

Point 4: Public education is a long-term preventive measure that is also necessary to correct the imperfect information in the market for healthcare services.

The under-consumption of healthcare services is also the **result of imperfect information among the public**. Some may have under-estimated the true benefits of regular health screening and check-ups while others may lack the knowledge or information about certain medical conditions, hence reducing their willingness to seek medical help/attention. Therefore, **public education is necessary to improve the level of information for the public, to correct certain misconceptions and mind-set**. Public education is actively done by the Singapore government to promote healthy living. This is seen by how community centres partner up with the Ministry of Health and polyclinics to offer free medical check-up for the public. In addition, the Singapore government also holds public campaigns, such as the "war against diabetes" and organises healthy outdoor games and activities for organisations and neighbourhoods. Posters are also put up by the Health Promotion Board to raise awareness of the risk of diabetes and ways to cut down our sugar intake. These public education efforts seek to improve the resource allocation of healthcare services in Singapore, through improving the level of information for the public. Although the outcomes from public education are uncertain and requires long-term implementation to see its effects, it is still necessary and appropriate for Singapore to **manage government's spending on healthcare services as our population ages in the next decade**.

Conclusion:

Joint provision is an appropriate measure to correct the market failure in the market for healthcare services in Singapore. Not only does it provide a cheaper alternative for the consumers, it also encourages greater competition among the healthcare providers, leading to better quality and variety of healthcare services. **As Singapore's population ages and human labour is our only resource, ensuring a healthy workforce is a priority for the Singapore government. This further necessitates the role of our government** in the provision of healthcare services. However, **joint provision cannot be the only measure** implemented by the Singapore government, as subsidies and public education also have to go hand in hand to ensure accessibility for all and long-term sustainability.

Marking scheme:

Level	Descriptors	Marks
L3	<p>For an answer which:</p> <ul style="list-style-type: none"> • Provides balanced and well-developed argument on whether joint provision is appropriate or not • Good and accurate use of economic analysis • Is sufficiently contextualised to the Singapore's healthcare market, taking into account certain demographic changes within Sg 	8 - 10
L2	<p>For an answer which:</p> <ul style="list-style-type: none"> • ONLY provides well-developed explanation on joint provision and how it works, including limitations • EITHER provides a balanced argument but not adequately developed OR provides a one-sided argument but well-developed • Some use of economic analysis but contain several inaccuracies • Attempts to support answers with some examples 	5 - 7
L1	<p>For an answer which:</p> <ul style="list-style-type: none"> • List the various government intervention but without much economic explanation. • Has no or minimal contextualised to the Singapore context • Contains several gross inaccuracies 	1 – 4

Evaluation:

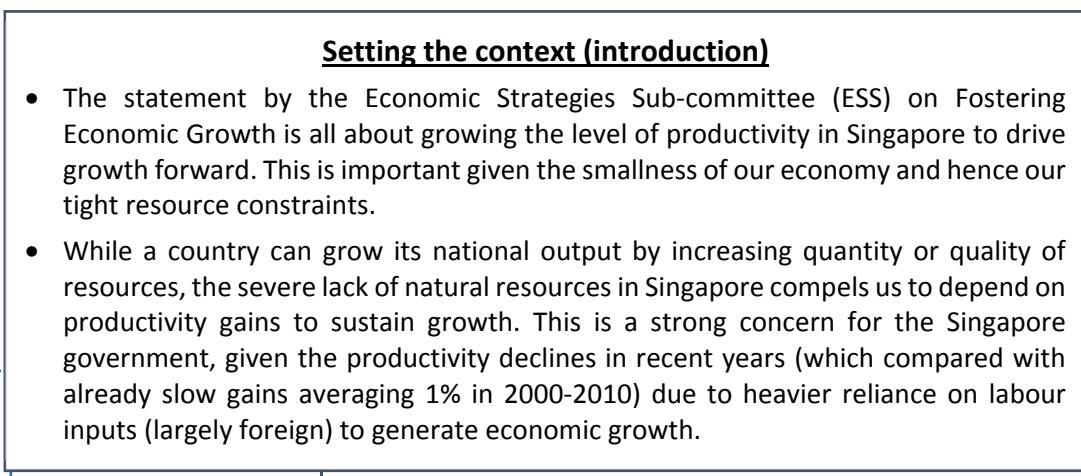
Level	Descriptor	Marks
E3	<p>Good attempt to provide well-reasoned evaluation/opinions, supported with clear explanation/evidence</p> <p><i>E.g. While joint provision may help to solve the under-provision problem in the Singapore's healthcare services market, it cannot be the only measure implemented by the Singapore government, as subsidies and public education also have to go hand in hand to ensure accessibility for all and long-term sustainability. The long-term measure of public education aims to promote healthier living, reducing the demand for expensive secondary healthcare services, therefore managing the healthcare costs for Singapore.</i></p>	4 – 5
E2	<p>Some attempt to provide synthesis/conclusion but lack clear substantiation/elaboration</p> <p><i>E.g. Singapore should adopt a multi-pronged approach as each policy has its own limitations.</i></p>	2 – 3
E1	Listing of opinion/conclusion, without any substantiation	1

4. In its report dated 1 February 2010, the Economic Strategies Sub-committee on Fostering Inclusive Growth stated that 'only productivity-driven growth can deliver sustainable and inclusive economic development'.

Assess the validity of this statement.

[25]

Suggested Approach for Q4



Productivity = efficiency with which inputs are converted into output. Expressed as output per unit of input.

Higher productivity → firms produce greater output for the same level of input (or same output with less input) → a fall in unit cost → can charge lower prices for its products → higher revenue ($PED > 1$) and/or higher profits.

Productivity-driven growth = the case when a country's economic growth is achieved via an improvement in quality of resources rather than an increase in the quantity of resources.

Economic development covers both growth + welfare values.

Economic growth = increase in national output **but ...**

Economic development = economic growth + improvement in quality of life (usually measured by HDI); has direct relationship with environmental issues.

Economic devt. that is sustainable = economic growth that a country can maintain over an extended period of time, without creating other significant economic problems (e.g. depleted resources and environmental harm) for the future generations

Economic devt. that is inclusive = economic growth that is broad-based across economic sectors, creates productive employment opportunities for majority of the population, and higher SOL for all

Analysis

Thesis argument: Productivity gains can deliver sustainable and inclusive economic development ...

Counter argument 1: Productivity-driven growth does not always bring about sustainable and inclusive economic development ...

Counter argument 2: Although necessary, productivity gains alone will not be able to deliver sustainable and inclusive economic development ...

Synthesis: give overall judgement on whether it is a valid (sound or logical) claim that productivity growth alone can deliver sustainable and inclusive economic development

Expansion of ANALYSIS & SYNTHESIS

Thesis argument: Productivity-driven growth can deliver sustainable and inclusive economic development

The statement is valid because given the scarcity of resources, a country cannot continually grow its economy by using more resources. It must focus on increasing the efficiency of its scarce resources, i.e. make them more productive. [Note: A global review by the International Labour Organisation in 2013 finds that labour productivity gains within economic sectors is the main driver of economic growth.]

The statement is made even more pertinent given the context of Singapore economy which is at or near full employment, and is faced with demographic constraints, i.e. ageing population and falling birth rate. **Thus, to attain an economic development that is sustainable and inclusive, Singapore needs to raise its economic competitiveness, produce sustainable wage growth and improve the SOL for all Singaporeans.**

In other words, we need to adopt a holistic approach to grow firms which see innovation as a way of life, a workforce that is at the global skills frontier, and we must put in extra effort to ensure that economic growth uplifts and upgrades low-wage workers as well. The following are some examples of how productivity gains can be achieved in the three key areas so that we can have sustainable and inclusive economic development.

- a) **To build dynamic and innovative firms** that constantly seek to develop new and improved ways to do business (e.g. investing in technology), we can:
 - *Incentivise firms to invest in productivity enhancement and innovation, and to take these initiatives at a national and sectoral level to accelerate large-scale productivity transformation*
 - *Develop knowledge base for firms to tap on, e.g. setting up of Singapore Productivity and Innovation Centre to conduct applied research on productivity and innovation that firms can tap on (just like Japan, Korea and Hong Kong)*
 - *Develop productivity training for managers, line supervisors and workers to enable employees at all to learn skills and techniques critical for development and implementing productivity initiatives (e.g. demand forecasting, flexible scheduling, supply chain management, servicemen management)*
- b) **To raise the quality of our human capital** (both local and foreign) to support a productivity-driven economy, we can:
 - *Develop multiple skills pathways (establish a stronger focus on skills qualifications) to complement academic pathways, and create opportunities for different types of talent and industries to thrive in Singapore*
 - *Provide stronger and meaningful linkages between academic and skills pathways to facilitate upward mobility for workers and provide employers with greater clarity on how different qualifications relate to one another (e.g. mutual recognition between Workforce Skills Qualification and ITE Nitec)*
- c) **To strengthen the ability of our low-wage workers to upgrade their skills** so that they can move into better and more productive jobs over time, we can:
 - *Introduce a broad-based incentive scheme to encourage employers to send their low-wage workers for training and for these workers to commit to training (because low-wage workers face several barriers to upgrading, e.g. high opportunity costs and non-supportive employers)*
 - *Develop a structured programme to train and place low-wage workers in better jobs, e.g. customise to their needs and cover basic literacy skills, financial assistance to cover opportunity and other costs (training allowance, completion awards), modular classes to suit their rotating shifts, counselling, etc.*

To ensure sustainability of our productivity efforts, there should be a **closer linkage between productivity and wage growth** to motivate workers. This can be done through performance-based remuneration.

Point to note: To ensure an economic development that is productivity-driven does not mean that we should do away with a foreign workforce because this is not practical at all. Instead, we need to ensure that the growth in foreign workforce is sustainable in the long-run, i.e. a slow growth to maintain a balance between the foreign and local workforce, and to compel firms to continue improving productivity.



Counter argument 1: Productivity-driven growth does not always bring about sustainable and inclusive economic development (points in brief ...)

- Productivity gains may hinder the attainment of inclusive economic development e.g. innovations tied to investment in technology or increased usage of capital inputs which may displace low-skilled workers.
- Efforts to innovate and improve productivity incur high fixed costs. Employers may use this to justify small or delays in wage increments, even after the efforts have delivered results.
- Some innovative efforts and practices may not be environmentally-friendly since the aim is merely to improve competitiveness and profit margins.
- Productivity gains which lead to stronger economic growth and jobs creation across the sectors may not necessarily bring about an improvement in overall quality of life – material vs. non-material SOL.
- Aligning academic and skills pathways is a necessary but time-consuming and very challenging as industry needs are dynamic. *How successful?*
- A significant budget is required to fund an effective broad-based incentive scheme to encourage employers to send their low-wage workers for training, and for these workers to commit to training. The same goes for developing a structured training and jobs-placement programme for low-wage workers. *How sustainable is it?*

Counter argument 2: Although necessary, productivity-driven growth alone will not be able to deliver sustainable and inclusive economic development

- Efforts to grow productivity are largely focused on improving supply-side conditions. Without corresponding and continual growth in aggregate demand, economic development can neither be sustainable nor inclusive.
- Given Singapore's small domestic demand, it is essential that have a healthy global economic climate to accompany our productivity-driven growth.
- With the government pushing firms to the frontline of productivity efforts, there is a need for Singapore to beef up its pro-investment programme to compete (with our Asian neighbours) for the investment dollar.



Synthesis:

- The statement that 'only productivity-driven growth can deliver sustainable and inclusive growth' is valid to a limited extent.
- A sustainable and inclusive economic development encompasses social and economic progress that must first require the achievement of economic growth – this can be derived by expanding both the country's aggregate demand and aggregate supply concurrently.
- While productivity-driven growth is vital and necessary to deliver sustainable and inclusive economic development, it cannot do the job alone. This is because economic progress does not always bring about a corresponding social progress, which looks at the overall quality of life for the country's citizens.
- While the country strives for productivity-driven growth to deliver economic development, its government must still put in place a range of policies to ensure that this economic development will be sustainable and inclusive. This would include policies to maintain price stability (i.e. there must be potential growth along with actual growth), curb environmental degradation and improve income distribution in the country.

Level	Knowledge, Analysis, Application	Marks
High L3	<ul style="list-style-type: none"> Developed and balanced discussion of why productivity-driven growth <ul style="list-style-type: none"> may not always, or is not sufficient to deliver economic development that is BOTH sustainable and inclusive Strong economic analysis, with almost no conceptual inaccuracies Well-substantiated by examples that are contextualized to Singapore, i.e. slowing productivity, efforts to boost productivity 	18-20
Low L3	<ul style="list-style-type: none"> Developed and balanced discussion of why productivity-driven growth alone may not deliver sustainable and inclusive economic development <p>BUT answer could be more coherent and detailed</p> Strong economic analysis, with perhaps some minor conceptual inaccuracies Well-substantiated by examples, but may not be the best examples relating to Singapore 	15-17
High L2	<ul style="list-style-type: none"> Balanced but undeveloped answer, e.g. <ul style="list-style-type: none"> statement is valid to a certain extent, with scope on both aspects of sustainability and inclusivity but not well elaborated on Developed but one-sided answer, e.g. <ul style="list-style-type: none"> statement is valid or not valid, but analysis has depth statement is valid to a certain extent, but focuses on either sustainability or inclusivity only Discussion is solely focused on economic growth, NOT economic development, i.e. total omission of discussion on quality of life Uses economic analysis but may contain some conceptual inaccuracies Answer contains some examples, but not consistent or well-contextualized to Singapore 	12-14
Low L2	<ul style="list-style-type: none"> Same as first 3 points for high-L2 but answer is a little skimpy Fair attempt to apply economic concepts to the question but appears technical and theoretical Answer contains few examples but are general and not so appropriate 	9-11
High L1	<ul style="list-style-type: none"> Unable to demonstrate an accurate understanding of the question Some knowledge of sustainable and inclusive growth Answer may contain conceptual errors about the different terms and phrases, i.e. productivity, sustainability, inclusivity, economic development Points made appear incidental and does not address the question 	5-8
Low L1	<ul style="list-style-type: none"> Unable to demonstrate an accurate understanding of the question Very scanty knowledge shown in the unpacking of key terms Mere listing of points without economic analysis and depth Significant conceptual errors Points made appear incidental and does not address the question 	1-4
L3	<ul style="list-style-type: none"> Validity of the statement is well discussed and justified Able to synthesise economic arguments to arrive at well-reasoned judgements in a good summative conclusion that is well-applied to Singapore. 	4-5
L2	<ul style="list-style-type: none"> Some attempt to evaluate validity of the statement or provide a synthesis Relevant judgement but insufficient elaboration 	2-3
L1	<ul style="list-style-type: none"> Unsupported evaluation statement or judgment 	1

Suggested Answers for 2018 Econ H2 Prelims Paper 2

Essay Question 5:

Discuss the extent to which the size of the economy affects a government's choice of macroeconomic policy tools.

Question Requirement:

- Explain what it means by "size of the economy" and how it affects a government' choice of macroeconomic policy tools (interest rate, exchange rate, fiscal)
- Discussing the extent requires students to consider other variables that the government takes into account while making decisions on the choice of macroeconomic policy tools used.
- An overall judgment on the extent to which the size of the economy affects the choice of macroeconomic policy tools, by taking into account all possible variables on balance and certain economic conditions the country may be in.

Introduction:

A government has several macroeconomic policy tools such as interest rate, government spending, tax rates and exchange rates, which it can make use of, to achieve the various macro objectives. How the government decides to use what policy tools takes into account several variables, such as the size of the economy, openness of the economy as well as the current economic condition the country is in. To what extent the size of the economy determines the government's choice of macro policy tools depends on the type of country as well as the current economic condition the country is in.

Point 1: Size of the economy determines the choice of macroeconomic policy tools the government uses

Size of the economy usually refers to the value of Gross Domestic Product (GDP) of the country. This value of GDP is affected by the population size and hence, the overall size of the domestic market. Larger economies such as China and United States of America (USA) tend to have a larger population size and hence, domestic markets, compared to smaller economies such as Singapore. The larger domestic market means that **domestic consumption expenditure (C)** as a proportion of the country's overall Gross Domestic Product (GDP) is **relatively higher** than those of the smaller economies. Therefore, to achieve the macroeconomic objectives such as healthy economic growth, the governments of the larger economies tend to rely more on **manipulating demand-management policy tools such as interest rates and tax rates** to affect consumption spending.

For example, the USA uses the interest rates to achieve economic growth. In times of slower economic growth, the USA may reduce the interest rates so as to reduce the cost of borrowing, hence spurring domestic consumption. It may also reduce the income tax rates, to increase the disposable income and hence, increase C. Since C takes up a large proportion of the USA's aggregate demand, it is effective in helping the government to achieve the macro objectives.

These **larger economies also are able to adopt protectionism tools** to protect its domestic industries and local goods and services from foreign competitors. Examples of protectionism can be seen in the recent trade wars between USA and China, each imposing tariffs on the imports. The use of the protectionism tools is intended to **switch expenditure away from the consumption of imports towards the consumption of local goods and services.**

On the contrary, the domestic consumption (C) of the smaller economies tend to be a smaller proportion compared to other components such as net exports (X-M) and investment (I). For smaller economies, since they do not have a sufficiently large domestic markets, these economies tend to be **more open and reliant on trade and foreign investments**. For the **smaller economies** like Singapore, the governments usually **rely on controlling its exchange rate and supply-side policy tools to enhance the international competitiveness of their products for the external markets**.

For example, as Singapore is a **small country which is reliant on foreign imported inputs**, she adopts a **gradual and modest appreciation of our exchange rate** so as to **reduce imported inflation and maintain our exports competitiveness** by keeping cost of production (cost of labour and raw materials) low. Singapore government adopt a **pro-competition stance** by creating conducive environment for local and foreign businesses to set up companies locally. Singapore also encourages businesses to be **innovative and to adopt more research and development (R&D)** through providing more research facilities and monetary support for these companies. At the same time, Singapore also signs **Free Trade Agreements** to encourage more access to larger overseas markets so as to increase our exports-revenue.

While the size of the economy definitely does influence the choice of macroeconomic policy tool that the government uses, it is **not the only variable**. The current economic condition of the country and the constraints of the government budget are also factors that governments take into considerations too.

**Note: Students can use the connection between size and the openness (small % of domestic consumption, that's why more reliant on foreign trade) to explain the choice of the macroeconomic policy tool, but is not a must. However, students may also use "openness of an economy" to support that the size of the economy is not the only variable that determines the choice of macroeconomic policy tool. Marks should be awarded according to the argument put forth by students.*

Point 2: Current economic condition(s) and the severity of these economic problems also determine the choice of macroeconomic policy tools

The government also has to take into account the **current economic climate** of the country when deciding which macroeconomic policy tool to use. For example, for larger economies with large domestic consumption spending, while it may be effective to reduce interest rates to encourage more domestic consumption, this **may not work in times of recession**. This is because, recessions **reduces the overall confidence level** of the households and businesses, therefore, even with the lower interest rates, the households may choose to save up for their future, rather than spending it away. **[Evaluation:] If the recession is persistent and severe, the governments may not be able to consistently reduce the interest rates as there is a limit to how low the interest rates can go.** It may have to use other macroeconomic policy tools such as increasing government spending (G), in times of severe recession.

Similarly, even though smaller economies tend to rely on manipulating exchange rates and supply-side policy tools to increase the net exports, it may not work if the global economy is reducing their demand for foreign goods and services due to global economic crisis. In this case, even with a competitive exchange rate, foreign countries may still not buy the exports. These small economies will also have to look at using **expansionary demand-management policy tools** such as increasing government spending (G) to lift the economy out of recession.

On top of this, the governments also have to be mindful of the **current priority(ies)** of the country. **Regardless of the size of economy**, if the country is plagued by **persistent rise in domestic costs** (such as wages, rental and electricity tariffs), the government will have to **make use of supply-side policies** to bring down the cost-push inflation. For example, the governments may have to offer subsidies to encourage greater productivity and innovation. In other cases, the economy could be facing severe structural problems, leading to high and persistent structural unemployment. This will necessitate the government to provide more training courses and training subsidies to quickly and effectively level up the skills training of the people.

Point 3: The use of supply-side policies to boost productive capacity and achieve potential growth should be adopted by all economies, regardless of size.

Regardless of the size of the country, any government should aim to **achieve sustainable economic growth**, which can be done by achieving both actual and potential growth. Potential growth can be achieved when the country's quantity of resources is increased and/or the quality of resources is improved. If and when the AD is the constantly growing without the simultaneous expansion in productive capacity (LRAS), the country will eventually be suffer from demand-pull inflation, affecting the purchasing power and SOL of the population. This is **especially so for the developed countries**, where they are at a **greater risk of overheating** as they are usually producing at the maximum productive capacity.

Therefore, this necessitates the need for the government to put in place some supply-side policies to ensure sustainable growth. Supply-side policies can include subsidies on training, skills training, providing greater accessibility to research and development, and deregulating the industry to include more competition. With a greater cost-efficiency and better productivity levels, the country can hope to expand the LRAS, maintaining the general price level and sustain the growth in national income. As such, the adoption of supply side policies should be done regardless of size of the economy, and even more so for developed countries who are nearing to full-employment.

Conclusion:

The size of the economy influences the choice of the macroeconomic policy tools to a large extent **when the country does not face any severe or persistent macroeconomic issue(s)**. The size of the economy gives an indication to the government on the **drivers for growth** for their country – domestic consumption for large economies and net exports for small economies, this allows governments to make better decisions in choosing the most appropriate macroeconomic policy tools to achieve the macroeconomic goals. However, in times when the country is facing severe macroeconomic issues such as high inflation rate and/or high unemployment rates, the government may have to make use of other alternative macro policy tools to solve these issues. **Regardless of size and the overall performance of the economy, all governments have to strive to achieve sustainable economic growth in the long-term, as such, the use of supply-side policies is a necessary choice for all economies.**

Marking scheme:

Level	Descriptors	Marks
High L3	<p>For an answer which:</p> <ul style="list-style-type: none"> • Fulfils all criteria in low L3 • Has a breadth of macro-economic policy tools that include both demand-management and supply-side • Is sufficiently contextualised to how large vs small economies chooses the macroeconomic policy tools 	18 - 20
Low L3	<p>For an answer which:</p> <ul style="list-style-type: none"> • Provides balanced and well-developed argument on the extent to which size of the economy influences the choice of macro policy tools • Explains other variables that will also influence the choice • Good and accurate use of economic analysis 	15 - 17
High L2	<p>For an answer which:</p> <ul style="list-style-type: none"> • Is either one-sided or under-developed and contains some explanation and link to the "size of the economy" • Able to give examples of large vs small economies but lacks the depth and precision in how they choose the macro policy tools depending on their size • Other variables are mentioned but not adequately explained • Use of economic analysis is sufficient and largely accurate 	12 - 14
Low L2	<p>For an answer which:</p> <ul style="list-style-type: none"> • Weak in economic analysis and insufficient/minimum link to the size of economy • Largely explains on how the macro policy tools work, but lacks contextualising it to the size of the economy. • Some use of economic analysis but contains several inaccuracies 	9 - 11
L1	<p>For an answer which:</p> <ul style="list-style-type: none"> • Vaguely provides some understanding of the 'size of economy' • Some economic explanation on how some macroeconomic policy tool works • Some weak and incidental attempts at linking size of economy to the choice of policy tools 	5 - 8
L1	<p>For an answer which:</p> <ul style="list-style-type: none"> • Has no definition or unpacking on the size of the economy, no use of examples • Listing of various economic policy tools but no economic analysis • Contains several gross inaccuracies 	1 – 4

Evaluation:

Level	Descriptor	Marks
E3	<p><i>Good attempt to provide well-reasoned evaluation/opinions, supported with clear explanation/evidence on the overall extent.</i></p> <p><i>E.g. The size of the economy influences the choice of the macroeconomic policy tools to a large extent when the country does not face any severe or persistent macroeconomic issue(s). The size of the economy gives an indication to the government on the drivers for growth for their country.</i></p>	4 – 5
E2	<p><i>Some attempt to provide synthesis/conclusion but lack clear substantiation/elaboration</i></p> <p><i>E.g. The size of the economy would determine the choice of macroeconomic policy tools but is not the only variable to be taken into consideration.</i></p>	2 – 3
E1	<i>Listing of opinion/conclusion, without any substantiation</i>	1

6. US has embarked on protectionist policies by imposing high tariffs on imports from China and EU to reduce its trade deficit and unemployment as its economic growth continues to pick up.
 - a) Explain why an economy's pattern of trade might change over time. [10]

Approach to Question 6a:

- Explain what is meant by pattern of trade
- Explain how comparative advantage principle explains an economy's pattern of trade
- Analyse the factors that can lead to change in an economy's pattern of trade using relevant examples

Introduction

Pattern of trade refers to the direction, volume and composition of trade between countries. Composition of trade refers to what is being exported or imported, while volume of trade refers to the real value of goods and services that is being exchanged. Lastly, direction of trade refers to the direction of exports and import flows.

Body:

- **Change in pattern of trade due to change in comparative advantage (Supply factor)**
 - One factor that causes a change in an economy's pattern of trade is the **change in its comparative advantage**. According to the principle of comparative advantage, a country should specialise in the good it has comparative advantage in, i.e. the good it can produce at lower opportunity cost than its trading partners, *ceteris paribus*.
 - Change in comparative advantage can be **due to changes in factor endowment, technological advancement and government policies**.
 - A change in an economy's pattern of trade due to **changes in its or its trading partner's state of technology**. The US, for example, may have lost its CA on manufactured products due to China's rapid technological development and advancement enabling China to produce some manufactured goods at lower opportunity cost than its trading partners.
 - **Government policies to encourage the development of certain industries** can also change the economy's pattern of trade. China's government policies in subsidising firms in its manufacturing industry to innovate and develop new technology advancement has helped to change the economy's pattern of trade from being a export of cheap labour-intensive manufactured goods to being an exporter of high-end manufactured goods.
 - China's **rising number of highly skilled and efficient workers** has led to rising productivity and hence the ability to produce high quality goods at lower opportunity cost than its trading partner, making it an exporter of higher end manufactured goods instead of being largely an importer in previous years.
- **Changes in demand preferences (demand factor)**

Increase in economic growth is a factor that can change an economy's pattern of trade.

For China, the high economic growth in the last decade or so has led to a rising number of middle income earners, hence rising affluence and changing lifestyles. The higher income group has changed the economy's consumption pattern in favour of high-end branded luxury goods

e.g. the luxurious Mercedes and B&W cars as well as Louis Vuitton luxury leather products. The **large increasing in the volume of import** of such exclusive luxury brands has changed in China's pattern of trade to being a **major importer** of luxury goods.

- **FTAs and government trade policies**

- **Bilateral and regional free trade agreements** such as ASEAN Economic Community (AEC), North America Free Trade Agreement (NAFTA) and the EU Customs Union have led to **trade creation** between member countries, thereby **changing the direction of patterns of trade** of member countries.
 - The Zero-tariff policy agreement among members of NAFTA, for example, has seen greater trade among the north American countries and less trade between north and south American countries.
 - EU's common high tariff on non-members has artificially increased the prices of imports from non-member countries, enabling them to be each other's major trading partners.
- **Increase in protectionist policies** such as increase in import tariffs and increase in subsidies to stimulate domestic firms' production, will **artificially increase import prices and lower domestically produced goods**, leading to a fall in import of the affected goods. For example, an US increase in import tariffs of solar glass panels will artificially raise the price of imported solar glass panels as consumers' demand shift to the domestically produced one. This will **lower its import** of solar glass panels, hence changing the direction of its trade pattern.

Knowledge, Application / Understanding and Analysis		
L 3	Well-developed answer that thoroughly analyses the factors that change an economy's pattern of trade, with scope and rigour , with good use of concept of comparative advantage and other relevant economic concepts, and good use of relevant examples.	8 – 10
L 2	Answer that explains the factors that change an economy's pattern of trade, using relevant economic concepts and some relevant examples but is not developed.	5 – 7
L 1	For an answer that shows some basic but largely unexplained knowledge of pattern of trade.	1 – 4

- b) Assess whether the use of protectionist policies to correct the country's trade deficit and employment can ever be justified. [15]

Approach to Question 6b:

- Explain what is meant by trade deficit and unemployment and how protectionist policy can help to correct trade deficit and unemployment.
- Explain and assess the conditions in which protectionist policy to correct trade deficit can be justified and the conditions in which protectionist policy is not justifiable.

Introduction:

- **Trade deficit occurs when a country's import expenditure is greater than its export revenue. Trade deficit is a cause of concern** as it affects both the country's domestic and external economy. Trade deficit leads to a worsening of BOP and eventually the stability of its currency. It also leads to falling AD, falling production, rising unemployment as well as economic slowdown.
- **Unemployment is a situation where workers are able and willing to work at the going wage rate but cannot find paid employment** despite an active search for work. High unemployment means that the economy is producing below full capacity, i.e. there is low output being produced in the economy leading to low economic growth hence lowers material standard of living.
- Hence measures have to be taken in correcting trade deficit and rising unemployment in the economy. One such measure is the use of **protectionist tools** such as imposing import tariffs and subsidising domestic firms **to make imports artificially more expensive** than domestically produced goods.
- **Provision of subsidies to domestic firm** will lower the cost of production of goods for exports, thereby reducing price of export and making export more competitive both in the domestic market as well as in the international market. At the same time, **tariff on imports** will artificially increase import prices, leading to fall in demand for import as consumers switch their demand to domestically-produced substitutes. These two policies will improve the economy's trade balance.

Thesis: Conditions in which protectionist policies is justifiable to correct trade balance

- **Domestic economic performance is affected by trading partner's unfair trade practices**
 - Protectionist policies is justifiable when the country's trade deficit is caused by its trading partner's **unfair trade practices, e.g. superficially low currency, large subsidies given to firms in export industries**. Such unfair practices will lower the economy's exports competitiveness both in its own domestic market and the global market.
 - Protectionist policies are also necessary **to prevent dumping** by foreign producers that can **affects the domestic firms' ability to increase production and enjoy economies of scale**. The lack of demand in its own domestic market, and the inability to enjoy economies of scale to reduce their costs will affect the domestic firms' ability to survive as they cannot compete against the cheaper imports. The shut-down of many of these domestic firms will not only lead to **worsening of trade deficit but also high unemployment**. Therefore, protectionist policies to protect against such unfair competition to address the current trade deficit and high unemployment is certainly justifiable.

- **Evaluation:**
Imposing import tariff in response to a perceived unfair competition can **lead counter-retaliation** from trading partners and **eventually leading to trade wars, reducing the country's export**, hence affecting the effectiveness of the protectionist policy to correct its trade deficit.
- **Government support is required for certain potential industries to grow and contribute to the economy's positive economic performance in the long run**
 - In the case of developing countries, **trade deficit occurs as large imports of resources and technology are required for economic development**. Protectionism is needed to **protect their growing industries** with the potential to develop comparative advantage so that they will be able to compete in the global market in the long run. Such infant industries incur very high initial start-up costs and take time to develop, and will need the domestic market demand to develop itself, to gain the revenue to cover their costs and to gain economies of scale and experience in production. Without protectionism these firms may not be able to survive to compete against the strong competition from imports. Protecting these industries for a period of time will **give the firms time to restructure themselves and sharpen their comparative advantage**.
 - Protectionist policies can also help to **develop import-substitute industries** so that the country **can be self-sufficient in those industries**, and perhaps even **develop new industries**. The artificially higher-priced imports may encourage residents to switch from imports to locally-produced substitutes, thus boosting production in this local industry and protecting jobs at the same time.
 - **Evaluation:**
The lack of competition in the economy can lead to **complacencies hence breed inefficiencies among the firms**. Hence, protecting these industries **should only be a short-term policy** to give the firms time to develop the comparative advantage to compete effectively in the global market. Prolonged protectionism on these firms can lead to inefficiencies in production and inability to compete in the global market and not helping to improve the country's trade balance.

Conditions in which protectionist policies is not justifiable

- When the trade deficit and unemployment are **caused by falling export due to loss of comparative advantage and lack of export competitiveness**
 - Protectionism is not appropriate in the case where the trade deficit is mainly due to falling export rather than rising imports. This could be due to loss of comparative advantage or inefficiencies in production in the export industries that lowers the country's export competitiveness.
 - **Evaluation**
A better option for the government to address its trade deficit in this situation is to impose **supply-side policies** via improving technology and innovations **to improve productivity and the quality of its products to improve its export competitiveness** in the global market. This may incur **high cost and longer time is taken to correct its trade balance**, but the effective of policies to improve AS and enhance export competitiveness would be **more long-term** than protectionist policy can ever be.

Antithesis:

- Protectionist measures such as Import tariffs and large subsidies for domestic production is a quick-fix that **improves the trade balance in the short run** by switching domestic consumers to locally-produced goods, reducing import spending to improve trade balance.
 - Protectionist policies to correct the country's trade deficit **at the expense of its trading partners' exports** does not seem fair to the other economies and may **instigate them to retaliate** by imposing tariffs on the country's exports hence dampening the effectiveness of its protectionist policy to correct its trade deficit.
 - Protectionist policies to correct trade balance and reduce unemployment may **back-fire** on the economy if import tariffs it impose on its trading partners include **tariffs on imported resources** and intermediate goods that are heavily required in some essential industries such as steel and energy. Such tariffs will cause the firms in these industries to face **higher costs of production forcing them to raise prices** in order to stay afloat. This will **affect the country's export competitiveness**, worsening the country's trade deficit.
 - Protectionist measure may be to the advantage of the domestic firms and help to protect the economy's employment, but this is at the expense of the domestic consumers. Tariffs and lack of competition will **increase consumer prices and reduce consumer welfare**.
 - The high government spending on subsidising domestic firms to protect them against competition can be a **strain on the government's budget**, and may increasing the already high government debt, like the US and UK. Protecting the inefficient firms in labour-intensive low-end manufacturing products to protect employment is very **likely to be a long-term burden** or the government is little or no effort is made to the economy's export-competitiveness or in training the workers the skills required to move to other industries.

Synthesis / overall evaluation

- Protectionist policy may not seem justifiable to solve the economy's own economic woes at the expense of its trading partners as it may seem **an unfair punishment to its trading partners for having healthier trade balance**. However, protectionist policy is **justifiable if it is implemented as a short-term measure**, for example to give time for potential industries to grow and develop the comparative advantage to compete more effectively in the global market in the future hence ensuring an improvement in trade balance in long run.
- However, there is a **need to be mindful of the possibility of retaliations** from other economies that can reduce the effectiveness of the policies in correcting trade deficit.
- Furthermore, the **improvement in trade deficit** brought about by the protectionist policy is **likely to be short-lived if the root-cause for the trade deficit is not addressed**.

Protectionist policy is aimed at artificially raising the price of imports so that domestic demand would be in favour of the domestic producers. This will increase domestic production, employment and economic growth. Unfortunately, **unless there are other government policies to increase export competitiveness and hence increase export**, the increase in income will lead to higher import demand, **worsening trade balance again**.

Level	Knowledge, Application, Understanding and Analysis	Marks
L3	<ul style="list-style-type: none"> For a balanced well-developed answer on whether protectionist policies to correct trade deficit is justifiable, with good use of relevant economic concepts and illustrated with good relevant examples. High L3 for answers that pay equal attention in discussing trade deficit and unemployment. 	8 – 10
L2	<ul style="list-style-type: none"> For an answer that explains whether protectionist policies to correct trade deficit is justified using economic analysis but not developed and limited in scope. Attempt at some use of relevant examples as illustration If a balanced argument is given, it is probably limited in depth Maximum of 6 marks for a one-sided answer. 	5 – 7
L1	Irrelevant answer; points are incidental; major conceptual errors	1 – 4
Evaluation		
E3	For an answer that is able to judgement on the conditions that affects the extent of the justification of protectionist policies to correct trade deficit e.g. despite the condition that makes protectionist policies justifiable, retaliation from trading partners may dampen the effectiveness of the policies in correcting trade deficit.	4-5
E2	For an evaluative assessment which weighs conditions for protectionist policies to be justifiable/unjustifiable e.g. for answer that weigh the net benefit of protectionist policies to correct trade deficit.	2-3
E1	For an answer that makes some attempt at an evaluative weighing of the benefits and costs of globalisation in different countries.	1



ANDERSON JUNIOR COLLEGE
JC2 PRELIMINARY EXAMINATION 2018
Higher 2

ECONOMICS

9757/01

Paper 1

29 August 2018

2 hours 15 minutes

READ THESE INSTRUCTIONS FIRST

Write your name, PDG and index number in the spaces provided on all the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use an HB pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** questions.

Begin your answer to **each question** on a **fresh sheet** of writing paper.

At the end of the examination, **fasten your answers to each question separately**. Fasten **this cover page** in front of your answers to **Question 1**.

The number of marks is given in brackets [] at the end of each question or part question.

Name: _____ ()

PDG: _____

Question Number	Marks Awarded
1	/30
2	/30
Total Marks	

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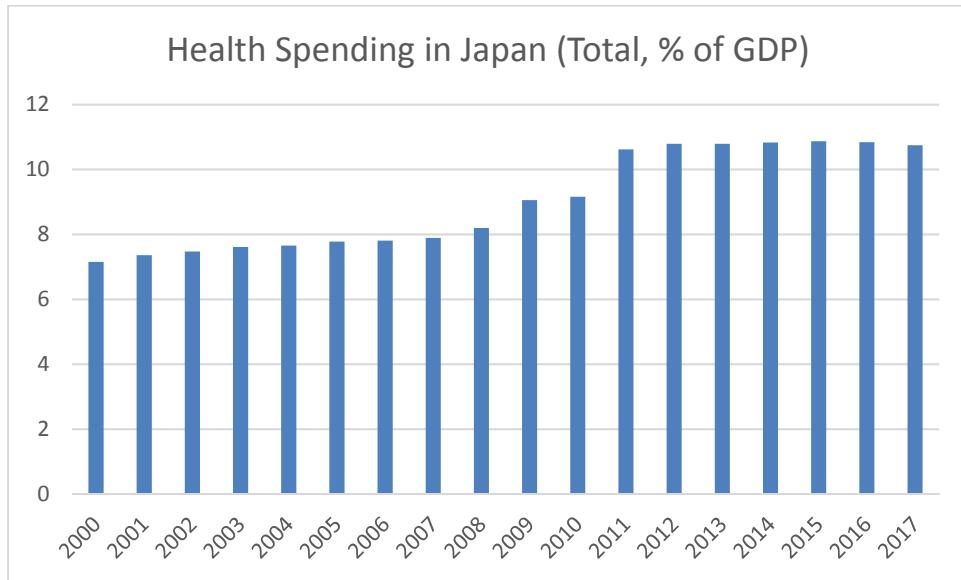
[Turn over]

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Answer **all** questions.

Question 1: Aging population: Burden or opportunity?

Figure 1: Health Spending in Japan



Source: *OECD*

Extract 1: Japan's demographic time bomb is getting more dire, and it's a bad omen for the country

An aging population like Japan's poses numerous problems. The government will have to spend more on healthcare, and that, coupled with a shrinking workforce and tax base, is a recipe for economic stagnation. It also means, among other things, that there will not be enough young people to care for the elderly.

"An aging population will mean higher costs for the government, a shortage of pension and social-security-type funds, a shortage of people to care for the very aged, slow economic growth, and a shortage of young workers," Mary Brinton, a Harvard sociologist, told Business Insider last year.

Source: *Business Insider*, 6 June 2018

Extract 2: Nursing care workers hard to find but in demand in aging Japan

As the nation's population rapidly greys, ensuring there are enough nursing care workers to meet growing demand has become a pressing issue. There has actually been a rise in nursing care workers. However, this has failed to keep pace with the rapidly growing demand, resulting in a nursing care industry with a chronic shortage of manpower. Considering Japan's declining workforce, the labour shortage in the industry is expected to worsen over time.

The government seeks to add 250,000 more nursing care workers to the system from 2017 by improving their working conditions and increasing their average monthly pay by 10,000 yen. But the state has not made clear how it will finance this.

The government also plans to create new nursing care facilities to accommodate 500,000 more users by the beginning of 2020. This, however, has been questioned by industry experts who argue that in densely populated urban areas, the lack of workers is more acute than the shortage of facilities.

The increasing difficulty in finding enough workers has led more facilities to rely on temporary staff dispatched from agencies, and some have reduced services. To lessen the burden on staff, some nursing care facilities are starting to use robotics, including wearable units for elderly people and care workers.

Source: *Japan Times*, 27 June 2016

Extract 3: Japan's shrinking population not burden but incentive

Prime Minister Shinzo Abe said Japan's aging, shrinking population was not a burden, but an incentive to boost productivity through innovations. Abe's comments on Wednesday came days after official data showed that Japan has 34.6 million people aged 65 and older, or 27.3% of the population - the highest proportion among advanced nations.

"I have absolutely no worries about Japan's demography," Abe said at a Reuters Newsmaker event, noting that nominal gross domestic product had grown despite losing 3 million working-age people over the last three years. "Japan may be aging. Japan may be losing its population. But these are incentives for us," he said. "Why? Because we will continue to be motivated to grow our productivity," Abe added, citing robots, wireless sensors, and artificial intelligence as among the tools to do so. "So, Japan's demography, paradoxically, is not an onus, but a bonus."

Abe has focused on mobilising women and the elderly to compensate for a shrinking workforce rather than tackle head-on the politically touchy topic of immigration, although some changes are being considered on that front.

Source: *Reuters*, 21 September 2016

Extract 4: Aging Japan: Robots may have role in future of elder care

Robots have the run of Tokyo's Shin-tomi nursing home, which uses 20 different models to care for its residents. The Japanese government hopes it will be a model for harnessing the country's robotics expertise to help cope with a swelling elderly population and dwindling workforce. Allowing robots to help care for the elderly - a job typically seen as requiring a human touch - may be a jarring idea in the West. But many Japanese see them positively, largely because they are depicted in popular media as friendly and helpful. Plenty of obstacles may still hinder a rapid proliferation of elder care robots: high costs, safety issues and doubts about how useful and user-friendly they will be.

The Japanese government has been funding development of elder care robots to help fill a projected shortfall of 380,000 specialised workers by 2025. Authorities and companies in Japan are also eyeing a larger prize: a potentially lucrative export industry supplying robots to places such as Germany, China and Italy, which face similar demographic challenges now or in the near future. A few products are trickling out as exports: Panasonic Corp has started shipping its robotic bed, which transforms into a wheelchair, to Taiwan.

Source: *Reuters*, 28 March 2018

Extract 5: A home from home for Japan's elderly

There are some key ways in which the nursing care sector in Japan has evolved to preserve its quality of care even as the hyper-ageing society ramps up its eldercare facilities. A quarter of its people are 65 or older now. By 2040, this group will make up more than a third of its population. Growing in tandem is the number and types of long-term senior care facilities available in Japan.

The most common is the tokuyo, a publicly funded facility that provides nursing care to seniors who have serious physical or mental disabilities. There were 566,600 beds in these facilities last year, up from around 300,000 in 2000.

Family members have traditionally cared for the elderly but nursing homes became affordable with the introduction of Japan's long-term care insurance (LTCI). Such a system is designed to shift the responsibility of supporting the elderly away from the family and into the public domain. This is key as more of the elderly requiring long-term care, and for longer periods. Yet, there was a lack of adequate caregiver support. The principles of this system include: supporting the independence of the elderly rather than just providing care, and allowing users to benefit from a range of services from institutions of their choice. This has led to a competitive market of service providers, mostly private players, springing up in the last decade.

Source: *Straits Times*, 31 July 2016

Questions

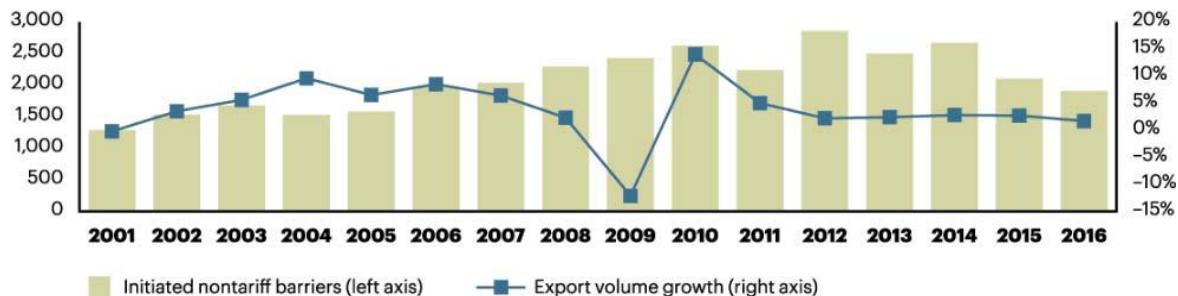
- (a)** From Extract 1, identify and explain a factor that could be responsible for the upward trend in Japan's health spending shown in Figure 1. [2]
- (b)** With reference to data, discuss the likely effects of a shrinking workforce in Japan and technological advancement on the robotics market. [8]
- (c)** Explain two possible changes that may occur to the demand curve of healthcare workers given the introduction of robots. [4]
- (d)** What is the main characteristic of a normative economic statement? Identify one example of such a statement from Extract 3. [2]
- (e)** Is a publicly funded nursing facility an example of a public good? Provide reasons for your answer. [4]
- (f)** Discuss the factors that the Japanese government should consider in allocating resources towards the development of elder care robots. [10]

[Total: 30]

Question 2: Issues in Trade and Protectionism

Figure 2: Trends in nontariff barriers and global export volume growth

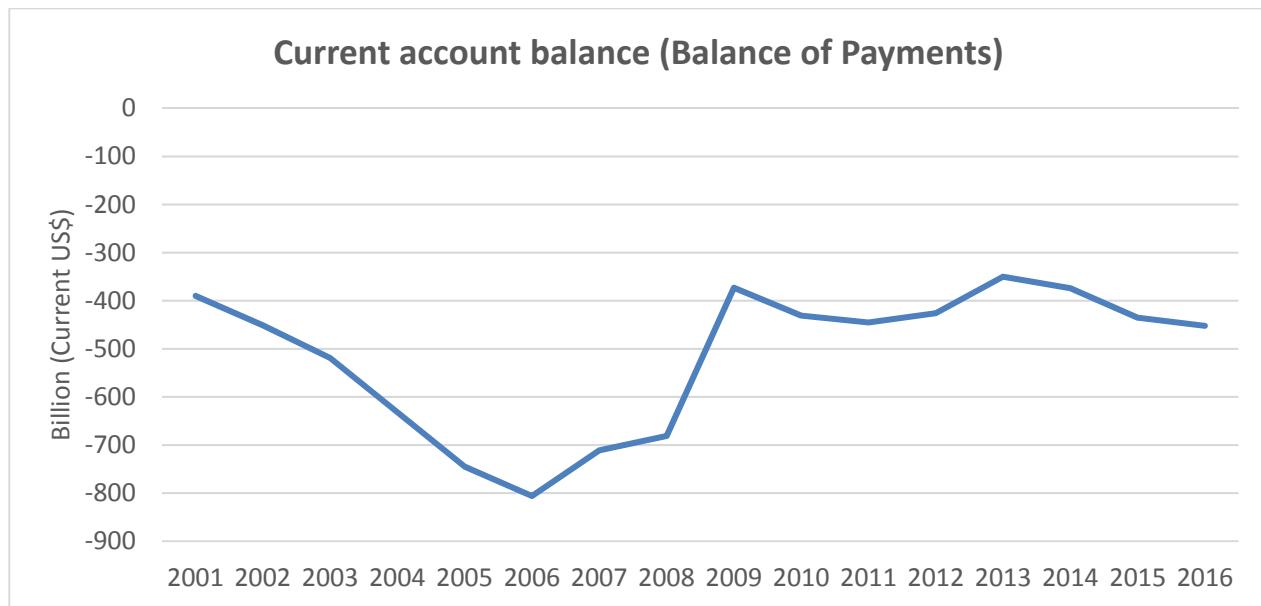
Trade barriers and export volume growth
(Number of barriers initiated, % of export volume growth)



Note: Data for 2016 is forecast as of November.

Source: A.T. Kearney

Figure 3: US Current account balance



Source: www.data.worldbank.org, accessed 1 August 2018

Table 1: Top export and import partners for Singapore in 2016

Destination	Share (%) of total Singapore exports	Origin	Share (%) of total Singapore imports
China	12.99	China	14.28
Hong Kong	12.61	Malaysia	11.40
Malaysia	10.61	United States	10.85
Indonesia	7.82	Taiwan	8.24
United States	6.86	Japan	7.02

Source: www.wits.worldbank.org and *The Economist*, 9 November 2016

Extract 6: US withdraws from the Trans-Pacific Partnership

President Donald Trump who said in his inauguration speech that it would be “America first” on all issues from now on, has long opposed the Trans-Pacific Partnership (TPP) and other free trade deals, saying they take jobs away from Americans.

The TPP is one of the most ambitious free trade agreements (FTAs) ever attempted and involves 12 countries - the US, Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam. It is aimed at deepening economic ties among these nations and is expected to substantially reduce tariffs, or even eliminate them in some cases, and help open up trade in goods and services. It is also expected to boost investment flows between the countries and further boost their economic growth.

Mr Trump says he would protect American workers against competition from low-wage countries like Vietnam and Malaysia. Mr Trump's stated remedies have included a promise to order his Treasury Secretary to declare China a currency manipulator, promises to put TPP talks on hold, and threats to place tariffs on imported goods. His trade stance mirrors a growing feeling among Americans that international trade deals have hurt the US job market. His fellow Republicans have long held the view that free trade is a must, but that mood has been changing.

The withdrawal of the US also represents a loss of opportunities for Vietnam, Malaysia, Brunei and to a smaller extent, Singapore. Malaysia and Vietnam stand out among the TPP members without existing US FTAs. Through the TPP, Vietnam and Malaysia were projected to enjoy some of the largest gains in exports, of 30.1% and 20.1% respectively, from access to protected foreign markets. They were also forecast to enjoy the largest boost to real incomes, by 8.1% and 7.6% respectively, by 2030.

Analysts say Singapore can still rely on the numerous FTAs that it has with most TPP members and Asean to soften the blow from a potential delay in the implementation of a Trump-shaped TPP. They believe the economic impact for Singapore would be limited given that it already has an open economy and extensive bilateral agreements in place – including an existing FTA with the US.

Source: *Straits Times*, 24 January 2017

Extract 7: Guarding against deflation in Singapore

The Monetary Authority of Singapore (MAS) should be ready to adjust its monetary policy further if deflation takes root in the city state, the International Monetary Fund (IMF) said.

Consumer prices in Singapore have declined every month since November 2014, the longest slump on record, partly due to lower oil prices and reflecting a weakening economy. Gross domestic product growth was flat on an annualised basis in the first quarter compared with the previous three months.

The IMF is forecasting growth of 1.8% this year, improving to about 2.5% in 2017. Tighter restrictions on foreign workers and an aging workforce is a constraint to growth, it said. The biggest external risk for the export-reliant economy is a sharper-than-expected global slowdown, according to the IMF.

Source: *Business Times*, 10 May 2016

Extract 8: MAS outlook for 2015

The global economy continues to grow at an uneven pace across countries, with stronger growth in the US partly offset by weakness in the Eurozone, Japan, and China. Even as some Asian economies benefit from the US recovery and the mild upturn in the global IT industry, other regional economies face weaker commodity exports. Against this backdrop, the Singapore economy grew more slowly. Looking ahead, the mixed outlook for the global economy will continue to weigh on the external-oriented sectors while the domestic-oriented sectors should stay broadly resilient. The 2015 growth forecast for the Singapore economy remains at 2 – 4%.

MAS will therefore continue with the policy of a modest and gradual appreciation of the S\$NEER policy band. However, the slope of the policy band will be reduced, with no change to its width and the level at which it is centred. This measured adjustment to the policy stance is consistent with the more benign inflation outlook in 2015 and appropriate for ensuring medium-term price stability in the economy.

Source: Monetary Authority of Singapore, 28 January 2015

Extract 9: Raise productivity or lose competitive edge

Warning that Singapore will lose its competitive edge if productivity growth continues to lag behind wage growth, Manpower Minister Lim Swee Say urged companies to overcome bottlenecks in their operations through partnerships, innovation and reducing their reliance on manpower.

As one of the most competitive economies in the world, Singapore is able to offer products and services at a cheaper price, he noted. However, it is increasingly facing stiff competition. Bottom-tier competitors are producing quality goods as their people become better educated and more skilled, while top-tier competitors are churning out products at a cheaper price through effective use of technology.

Companies have to increase productivity, innovation and responsiveness in order to compete on price, quality and speed, respectively. Raising productivity is also the only workable and sustainable solution to boost economic growth, said Mr Lim.

Some companies may not have the resources and knowledge to transform and adapt to the changing labour market. In such cases, the firms can partner others to co-develop innovative practices. Meanwhile, companies that are unable to manufacture its products cost-effectively face the challenge of an inefficient production system and the solution is to switch to manpower-lean practices.

Source: Today, 1 November 2016

Questions

- (a) Explain whether Figure 2 suggests a growing trend towards protectionism. [4]
- (b) (i) Using a diagram, explain how the imposition of a tariff leads to deadweight loss. [5]
- (ii) Analyse the possible arguments as to why the US would place tariffs on imported goods and consider which argument might be more justified. [8]
- (c) Use aggregate demand and supply analysis to explain how it is possible that "deflation takes root in the city state" (Extract 7). [3]
- (d) With reference to data, assess the extent to which the Singapore government's approach to international trade may need to be adjusted in response to the withdrawal of the US from the Trans-Pacific Partnership. [10]

[Total: 30]

End of paper



ANDERSON JUNIOR COLLEGE
JC2 PRELIMINARY EXAMINATION 2018
HIGHER 2

ECONOMICS

9757/02

Paper 2

11 September 2018

2 hours 15 minutes

Additional Materials: Writing Paper

READ THESE INSTRUCTIONS FIRST

Write your name, PDG and index number in the spaces provided on all the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use an HB pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **three** questions in total, of which **one** must be from Section A, **one** from Section B and **one** from **either** Section A or Section B. Begin your answer to **each question** on a fresh sheet of writing paper.

At the end of the examination, **fasten this cover page in front of the first question attempted**.

The number of marks is given in brackets [] at the end of each question or part question.

Name: _____ ()

PDG: _____

Question Number (list the questions attempted)	Marks Awarded
	/25
	/25
	/25

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Answer **three** questions in total.

Section A

One or two of your three chosen questions must be from this section.

- 1** Singapore's visitor arrivals hit new record highs in 2017. This has resulted in the growth of tourism-based services.

Discuss the demand and supply factors that can account for the reported change in the volume of tourism-based services in Singapore and evaluate which is likely to be the most significant factor.

[25]

- 2** Ten years ago, it seemed like Walmart had monopoly power when it came to retail. Today, Walmart has been displaced by an online retailer, Amazon. Walmart has had to deal with risks and uncertainty like the trend towards e-commerce and slower economic growth while trying to compete.

(a) Explain the factors that a firm considers in deciding whether to be larger.

[10]

(b) Discuss whether the determination of Walmart's decisions and strategies are more dependent on competitors' actions or business risks and uncertainty.

[15]

- 3** Governments typically intervene in the market for education in several ways.

Explain why government intervention is needed in the market for education, and discuss whether such intervention will help a government meet its microeconomic objectives.

[25]

Section B

One or two of your three chosen questions must be from this section.

- 4** The central bank of the US has raised interest rates from 0.1% in 2015 to 0.7% in 2016.

Explain the internal and external impacts of the increase in interest rates by the US central bank on the Singapore economy and assess whether fiscal policy is the best policy for Singapore to address the possible adverse impacts.

[25]

- 5** China has long been widely touted as a nation of savers. Credit Suisse pegs China's savings rate at 32% of household income.

Source: Nikkei Asian Review, 2018

a) Explain the factors that cause household savings to be high. [10]

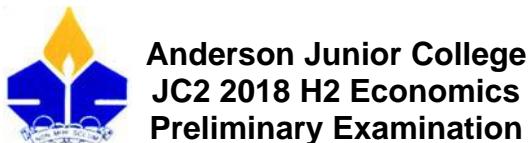
b) Discuss whether higher household savings rates are desirable for an economy. [15]

- 6** An economist stated 'Globalisation affects all corners of the world, yet requires more government control, not less'.

(a) Explain how globalisation impacts a country's balance of payments position. [10]

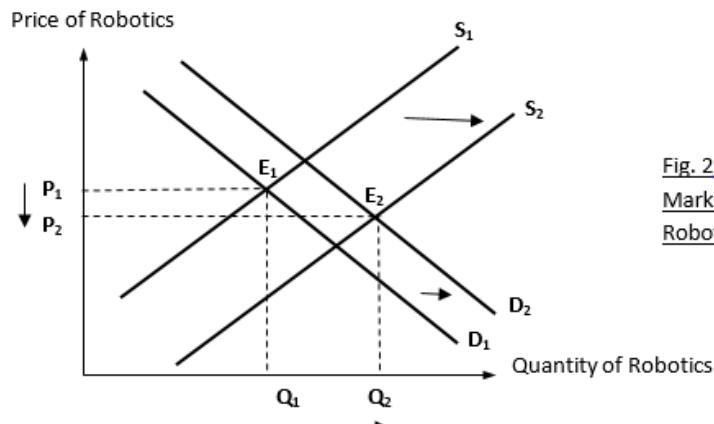
(b) Discuss the view that the role of the Singapore government is more important with the rise of globalisation. [15]

END OF PAPER



Case Study Question 1 – Aging population: Burden or opportunity?

<p>a From Extract 1, Identify and explain a factor that could be responsible for the upward trend in Japan's health spending shown in Figure 1.</p> <p>Aging population (Ext 1) → increase in demand → increase in P and Q → increase in spending</p>	[2]
<p>b With reference to data, discuss the likely effects of a shrinking workforce in Japan and technological advancement on the robotics market.</p> <p>Shrinking workforce (Ext 1) → fall in supply of labour → wages increase Thus demand for robotics which are substitute for labour will increase (Ext 4: funding development of elder care robots to help fill a projected shortfall of specialised workers) → shift DD curve to the right</p> <p>Tech advancement → fall in unit COP → more profitable → increase in SS → shift SS curve to the right</p> <p>P1: increase in DD > increase in SS → equilibrium P and Q increase It takes time to develop and create robotics suitable for different types of healthcare services, coupled with the aging population. It is likely that increase in demand will outweigh the increase in supply in the SR. Hence, equilibrium price and quantity will increase (Fig 1).</p> <div style="text-align: center;"> <p>Price of Robotics</p> <p>Quantity of Robotics</p> <p>Fig. 1: Market for Robotics</p> </div> <p>P2: increase in DD < increase in SS → equilibrium P falls, Q increases Once the technology is fully developed, they may be able to produce more robotics. Hence it is likely that increase in supply will outweigh the increase in demand in the LR. Hence, equilibrium price will decrease while equilibrium quantity will increase (Fig 2).</p>	[8]

**Evaluation**

Ext 2: With the rapidly aging population and, as the robotics are seen as a close substitute to the workers, demand for the robotics will increase significantly. However, given the existing technology, supply of robotics is unlikely to increase significantly. Hence the increase in demand is still likely to persist and outweigh the increase in supply. Hence, equilibrium price and quantity will increase.

Level	Knowledge, Application, Understanding and Analysis	Marks
L2	An answer that clearly discusses the different impact on the robotics market	4 – 6
L1	An answer that is descriptive without much economic framework linking the factors to the robotics market	1 – 3

Evaluative comment

Up to 2 further marks for an evaluative appraisal of possibly which factor is the most significant and hence eventual impact on the market

c	<p>Explain two possible changes that may occur to the demand curve of healthcare workers given the introduction of robots.</p> <p>Robots are deemed as substitutes for healthcare workers (Ext 4: development of elder care robots to help fill a projected shortfall of 380,000 specialised workers) → increase in supply of robots causes fall in price of robots → increase in quantity demanded of the robots → fall in demand for the healthcare workers → leftward shift of the demand curve.</p> <p>With the introduction of robots, there are now more substitutes available, therefore demand for healthcare workers also becomes more price elastic/less price inelastic → demand curve becomes gentler / less steep.</p>	[4]
d	<p>What is the main characteristic of a normative economic statement? Identify one example of such a statement from Extract 3.</p> <p>A normative economic statement expresses value judgements (opinions) about economic fairness or what the outcome of the economy and policy measure(s) <i>ought to be</i>.</p>	[2]

	<p>One example is “So, Japan’s demography, paradoxically, is not an onus, but a bonus”.</p> <p>Other accepted statements:</p> <ul style="list-style-type: none"> - “Prime Minister Shinzo Abe said Japan’s aging, shrinking population was not a burden, but an incentive to boost productivity through innovations.” - “I have absolutely no worries about Japan’s demography.” 	
e	<p>Is a publicly funded nursing facility an example of a public good? Provide reasons for your answer.</p> <p>Public goods exhibit both characteristics of non-excludability (NE) and non-rivalry (NR) in consumption.</p> <p>Excludability → an elderly’s consumption of the nursing facility is made contingent on payment, while other individuals who do not pay for the nursing facility can be effectively excluded from enjoying the benefits → can exclude non-payer from staying in the public nursing home</p> <p>AND</p> <p>Rivalry in consumption → the consumption of the nursing facility by one elderly reduces the amount of benefit that is available to others.</p> <p>Concluding statement → since publicly funded nursing facilities do not fulfil characteristics of NE and NR, they are not an example of public good.</p>	[4]
f	<p>Discuss the factors that the Japanese government should consider in allocating resources towards the development of elder care robots.</p> <p>The objective of a government is to maximise social welfare, which is achieved when production takes place up to the quantity where marginal social benefits (MSB) is equal to marginal social cost (MSC).</p> <p>In deciding how to allocate its resources towards development of robots for elder care, the Japanese government would consider various factors such as its constraints, the benefits and costs from allocating additional units, as well as gather information and consider the perspectives of relevant stakeholders.</p> <p>One factor that the Japanese government needs to consider is the constraints it faces, as the constraints will limit the available choices and their associated benefits and costs. These constraints include the budget constraint and the priority of economic aims. For example, if Japan is facing budget deficit, the amount of resources that they can allocate to the development of elder care robots will be limited. Moreover, it also depends if they have other pressing issue such as worsening of growth which would require them to allocate resources towards, hence fewer resources available for the development of elder care robots.</p> <p>Another factor that the Japanese government needs to consider will be the benefits from the development of elder care robots such as achieving efficiency and equity in the economy. Positive externality could arise due to the consumption of elder care robots such as easing the manpower shortage and promoting higher rates of economic growth as the younger generation would be more able to focus better at work and be more productive once their parents are cared for by these robots, (Ext 4: “robotics expertise to help</p>	[10]

	<p>cope), resulting in under-consumption of elder care robots. Hence, allocating recourse to the development of elder care robots would help to achieve allocative efficiency. In addition, the development of elder care robots by the government would also ensure that people who require it will be able to access it such as the lower-income elderly, hence achieving equity.</p> <p>Another factor that the Japanese government needs to consider will be the benefits from the development of elder care robots such as achieving economic growth. The government could generate export revenue from the sale of elder care robots (Ext 4: potentially lucrative export industry). With increasing export revenue, net exports will increase, ceteris paribus. Hence aggregate demand will increase, leading to multiplied increase in real national income, hence achieving actual growth.</p> <p>Another factor that the Japanese government needs to consider will be the costs from the development of elder care robots such as the cost of development (Ext 4: high costs, safety issues and doubts). Development of elder care robots will incur high costs such as recruiting the professionals and purchase of high technology material such as microchips. They will also need to spend on research and development to ensure that the robots are safe for usage. Moreover, they will need to increase production for the rapidly aging population. Hence production cost is likely to increase significantly which will be a strain of the budget.</p> <p>In addition, the government will need to consider the opportunity cost incurred. If they were to allocate the resources to the development of elder care robots, it will mean that they have fewer resources available for other areas such as education and healthcare, hence worsening the efficiency in other markets like education.</p> <p>Another factor that the Japanese government needs to consider will be the perspectives of others such as the consumers who are the elderly in this case. Elder care is typically seen as a job which requires a human element (Ext 4: a job typically seen as requiring human touch), and if the consumers are not receptive to this idea, there may be low demand for such elder care robots. In this way, the government should not allocate much resources to this development. On the other hand, there is generally warm reception to robots by many Japanese (Ext 4: “many Japanese see them positively). There may be an increase in demand, and hence the government should be allocating more resources towards the development.</p> <p>Finally, after determining the MSB and MSC, the Japanese government would weigh them to make its decision. It would allocate resources towards developing more robots if the marginal social benefit is greater or at least equal to the marginal social cost as the addition to total benefit is greater than or at least equal to the addition to total cost. This would then allow it to maximise social welfare.</p> <p>EV: Make a stand and justify</p> <p>In conclusion the Japanese government makes decisions by considering the factors that affect their costs and benefits and then weigh MSB and MSC to allocate resources to maximise social welfare.</p> <p>The most significant factor may be constraint that the Japanese government</p>	
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	<p>is facing. If they are facing a budget deficit or facing more pressing issues such as slow growth, shrinking workforce and tax base (Ext 1), they may want to focus on boosting economic growth first. With economic growth, it will allow them to collect more tax revenue which could then be channelled to developing elder care robots eventually.</p> <p>The most significant factor would also depend on whether the Japanese government has implemented other policies to improve the economy concurrently. It is very likely that the government may be looking at other macroeconomic stabilisation and growth policies while addressing the issue of an aging population and promoting elder care. This being the case, the most significant factor to consider would then be the perception of the public towards elder care robots or the direct benefits that elder care robots might have on the healthcare sector, rather than unintended positive impacts on the wider economy (because the latter would not be obvious).</p> <p>Mark scheme:</p> <table border="1"> <thead> <tr> <th data-bbox="263 765 366 833">Level</th><th data-bbox="366 765 1081 833">Knowledge, Application, Understanding and Analysis</th><th data-bbox="1081 765 1229 833">Marks</th></tr> </thead> <tbody> <tr> <td data-bbox="263 833 366 974">L2</td><td data-bbox="366 833 1081 974">An answer that clearly explains the different factors that a rational manufacturer would have to consider, including the constraints, benefits and costs.</td><td data-bbox="1081 833 1229 974">5-7</td></tr> <tr> <td data-bbox="263 974 366 1080">L1</td><td data-bbox="366 974 1081 1080">An answer that is descriptive without much economic framework linking the factors to be considered to costs and benefits.</td><td data-bbox="1081 974 1229 1080">1-4</td></tr> <tr> <td align="center" colspan="2" data-bbox="263 1080 1229 1125">Evaluative comment</td><td data-bbox="1229 1080 1287 1125"></td></tr> <tr> <td align="center" colspan="2" data-bbox="263 1125 1229 1208">Up to 3 marks for an evaluative comment on which factors are the most significant or how the factors may evolve given a change in the external environment, etc.</td><td data-bbox="1229 1125 1287 1208"></td></tr> </tbody> </table>	Level	Knowledge, Application, Understanding and Analysis	Marks	L2	An answer that clearly explains the different factors that a rational manufacturer would have to consider, including the constraints, benefits and costs.	5-7	L1	An answer that is descriptive without much economic framework linking the factors to be considered to costs and benefits.	1-4	Evaluative comment			Up to 3 marks for an evaluative comment on which factors are the most significant or how the factors may evolve given a change in the external environment, etc.			
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Question 2: Issues in Trade and Protectionism

(a)	Explain whether Figure 2 suggests a growing trend towards protectionism.	[4]
	<p>Protectionism is a trade policy whereby the government shelters domestic industries from foreign competition through the imposition of trade barriers on foreign goods and services.</p> <p>P1: Fig 2 suggests growing trend towards protectionism</p> <ul style="list-style-type: none"> Overall increase in nontariff barriers. <p>P2: Fig 2 doesn't suggest growing trend towards protectionism</p> <ul style="list-style-type: none"> Global export volume has been showing positive growth which means that the export volume has been increasing, a sign of freer trade and not growing protectionism. The no. of nontariff barriers has largely fallen since the peak in 2012 thus the world may be moving away from protectionism instead of towards it. Though nontariff barriers may have increased, tariffs may have fallen by a larger extent. Thus, information in fig 2 is not sufficient to determine whether there is a growing trend towards protectionism. 	
(b) (i)	Using a diagram, explain how the imposition of a tariff leads to deadweight loss.	[5]
	<p>Domestic supply and demand are represented by S and D respectively. We assume the country is too small to affect world prices. It is a price taker.</p> <p>The world price is OP and world supply (W_s) to the country is perfectly price elastic. At P, Q_1 is demanded, Q_0 is supplied by domestic producers and thus, $Q_0 Q_1$ is imported.</p> <p>If the government now imposes a tariff of PP_1, the price of this commodity in the domestic market increases to OP_1, and total consumption decreases to OQ_3 while domestic output increases to OQ_2 and $Q_2 Q_3$ is imported.</p>	

	<p>The imposition of the tariff imposes a cost on society. Consumers now have to pay a higher price and consumer surplus falls from DCP to DAP₁. The cost to consumers is the loss of consumer surplus equal to PP₁AC.</p> <p>However, PP₁EG is the gain in surplus for producers and EABF is the tax revenue gained by the government.</p> <p>Thus, the remaining areas EFG and ABC represent the deadweight loss to society.</p>	
(ii)	<p>Analyse the possible arguments as to why the US would place tariffs on imported goods and consider which argument might be more justified.</p>	[8]
	<p>Argument 1: Protect against low-wage workers/ protect home employment</p> <p>Argument for: Extract 6 states the need to protect American workers against competition from low-wage countries like Vietnam and Malaysia. Countries such as the US where the people enjoy high wages have often felt threatened that their standard of living would be undermined by the import of cheaper goods from low-wage countries. Without protection, the local industries may be edged out and have to close down, resulting in the fall in employment and standard of living. To protect their jobs, they may press for higher tariffs and other means to keep out the goods.</p> <p>Argument against: Though such protection benefits high wage workers, it encourages inefficiency and consumers will be denied the opportunity to buy from cheaper sources of supply. If the country has lost its comparative advantage, it should re-look these industries and if necessary, let them shut down to divert resources to other more productive uses.</p> <p>Argument 2: Reduce a persistent Balance of Payments (BOP) deficit</p> <p>Argument for: Figure 3 shows that US's current account has consistently been in a deficit from 2001 to 2016, likely due to excessive import expenditure over export revenue. This is likely to lead to a persistent BOP deficit which may cause increasing foreign debt resulting in external instability and making the US economy more vulnerable to speculations against the US dollar. Hence there is a need to place tariffs on imported goods to reduce the import expenditure. By improving the current account position, it will also lead to an improvement in the BOP position, ceteris paribus.</p> <p>Argument against: The policy of reducing imports is often referred to as a 'beggar-thy-neighbour' policy. This is because the country solves its own problems by passing them on to others. Furthermore, the effectiveness of such</p>	

	<p>policy depends on the price elasticity of demand and supply of the imported goods. The balance of payments problem may not be corrected by increasing the prices of these imports. Moreover, its trading partners may retaliate and hence negate the effectiveness of the protectionist measures.</p> <p>Argument 3: Prevent dumping</p> <p>Argument for: Extract 6 mentions China being a currency manipulator. If this is true, China's exporters have an unfair advantage since a weaker currency will allow its exports to be sold at prices below the marginal cost of production, which is dumping. American firms may thus be driven out, causing unemployment and Chinese firms may gain monopoly power in US. This may result in market dominance which will increase productive and allocative inefficiency due to a lack of competition. Protection from such unfair competition would be justified based on the market distortions which can result in long-term inefficiencies.</p> <p>Argument against: It is difficult to prove that China is a currency manipulator and its low prices may in fact be due to its comparative advantage. If this is so, placing tariffs on imported goods would only cause US consumers not to be able to enjoy goods at a lower price, causing consumer surplus to be lower and also causing greater deadweight loss in society (as explained in b i).</p> <p>Evaluation: Consider which argument is more justified:</p> <ul style="list-style-type: none"> The arguments that China is a currency manipulator or home employment in the US has suffered due to the competition from low-wage workers are difficult to prove and require more data or information to determine. In contrast, it is clear from Figure 3 that US is indeed suffering from a large and persistent current account deficit which needs to be tackled. Therefore, the argument to reduce the BOP deficit might be more justified, at least in the short run. However, in the long run, protectionist measures will only distort the true costs and differences in comparative costs between countries, causing the benefits that can accrue due to free trade to be reduced. The root cause why US is suffering from a BOP deficit has to be determined and if it is due to a loss of comparative advantage (CA), US should use supply-side policies instead to directly tackle the problem rather than seeking to protect the inefficiency. 	
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(c)	Use aggregate demand and supply analysis to explain how it is possible that “deflation takes root in the city state” (Extract 7).																										
	<p>Deflation is where there is a sustained fall in the general price level.</p> <ul style="list-style-type: none"> Extract 7 mentioned that the biggest risk is a sharper than expected global slowdown. A global slowdown will lead to a fall in global demand for Singapore's exports, resulting in a fall in $(X-M)$ and a fall in AD. If this persists, there will be a sustained fall in the GPL. Extract 7 also mentioned lower oil prices which will result in a fall in cost of production for many goods and services since oil is a main source of energy. This will lead to an increase in SRAS which will again lead to a sustained fall in GPL if oil prices continue to fall. Therefore, these above factors may cause deflation to take root in the city state. 																										
(d)	With reference to data, assess the extent to which the Singapore government's approach to international trade may need to be adjusted in response to the withdrawal of the US from the Trans-Pacific Partnership.																										
	<p>Overview</p> <p>Thesis: Need to adjust</p> <ul style="list-style-type: none"> Reasons → negative impact on the withdrawal of USA from the TPP in Singapore Limitations of existing policies eg. Gradual and modest appreciation Adjust to solve the root cause of the problem brought by the issues from TPP: <ul style="list-style-type: none"> - Weaken the ER - Use more SS-side policies <p>Anti-thesis: No need to adjust</p> <ul style="list-style-type: none"> Reasons → extensive bilateral agreements in place Effectiveness of current policies to address the negative impact eg existing FTAs, gradual modest appreciation 																										

	<p><u>Thesis: Needs to adjust</u></p> <p>The withdrawal of the US from the TPP means fewer trading activities, assuming that the increase in X is greater than the increase in M, there might be a fall in (X-M). Capital may also be less mobile, causing a fall in FDI into Singapore. Overall, actual growth and BOP position may worsen.</p> <p>According to Extract 8, the current approach taken by the Singapore government is gradual, modest appreciation. This aims to curb inflation but is less relevant as the economy is facing negative inflation. The falling oil prices (Extract 7) also means that Singapore is unlikely to face a threat of imported inflation.</p> <p>On top of that, Extract 6 mentioned that “ the withdrawal of the US also represent a loss of opportunities for ...Malaysia...” → Given that the economic growth of Malaysia may be affected and it is Singapore’s third largest export partner (Table 1) → Singapore’s export revenue and thus growth may further weaken with negative inflation worsening.</p> <p>Exchange rate policy Should consider allowing SGD to weaken. Assuming MLC holds since there are many close substitutes available from neighbouring countries, (X-M) will increase, AD increases, RNY increases. This helps to compensate the loss in (X-M) due to the withdrawal of US from the TPP.</p> <p>SS side policies Need to use more SSP to enhance export competitiveness and maintain or create new CA (non-price competitiveness).</p> <p>Extract 9 warns that Singapore will lose its competitiveness if productivity growth lags behind wage growth. Singapore thus needs to enhance productivity growth to lower the unit cost of labour which reduces the average cost of production and can then be translated to lower prices of our exports. A more productive workforce can also help to attract investment from other countries such as China and Japan.</p> <p>More effective use of technology in new areas of growth can create new CA can improve the non-price competitiveness of our exports leading to an increase in demand for our exports.</p> <p><u>Anti-thesis: No need to adjust</u></p> <p>Trade Policy Singapore has numerous FTAs with most TPP members and ASEAN and it also continues to sign new FTAs with other countries. Extract 6 states that the economic impact for Singapore would be limited given that it already has an open economy and extensive bilateral agreements in place - including an existing FTA with US. These allow the Singapore economy to diversify into other regions and enjoy the benefits from specialisation and trade as well as maintain our export revenue even with the withdrawal of the US from the TPP.</p> <p>Furthermore, from table 1, US is Singapore’s third import partner but our</p>	

	<p>fifth export partner where US share of total Singapore exports is less than 7%. This may then suggest that the impact on (X-M) is less significant.</p> <p>Gradual and modest appreciation with reduced slope Since the MAS has already reduced the slope of the exchange rate as suggested in Extract 8, there is no need for further change as a gradual and modest appreciation of the exchange rate is still needed to control imported inflation, given that we are small economy, heavily reliant on imports. The lower oil prices may also not persist as OPEC may restrict supply or demand may increase with countries seeing stronger growth.</p> <p>Possible EV: May not need to adjust because overall impact on SG is likely to be small. SG already has existing FTAs with many countries, including US. As long as Singapore is able to maintain her CA and establish new CA, the withdrawal of the US from TPP might not necessitate a change in her existing macroeconomic policies. That said, it is difficult to identify new areas of growth. Also, its indirect impact on Singapore can be substantial.</p>	
Mark scheme		
L2	Well-developed discussion on the reasons or current measures and policies that need to be adjusted by Singapore	5-7
L1	Brief explanation on the reasons or current measures or policies that needs to be adjusted by Singapore. May contain conceptual errors	1-4
Evaluation		
E2	Evaluation based on economic analysis (whether to adjust approach)	2-3
E1	Mere statement without economic analysis	1



**Anderson Junior College
JC2 2018 H2 Economics
Preliminary Examination**

Essay 1

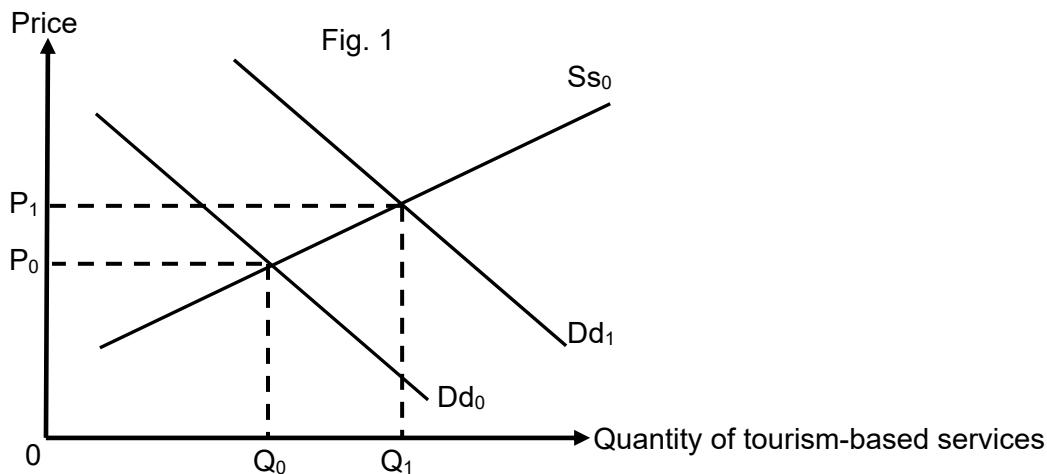
Singapore's visitor arrivals hit new record highs in 2017. This has resulted in the growth of tourism-based services.

Discuss the demand and supply factors that can account for the reported change in the volume of tourism-based services in Singapore and evaluate which is likely to be the most significant factor.

[25]

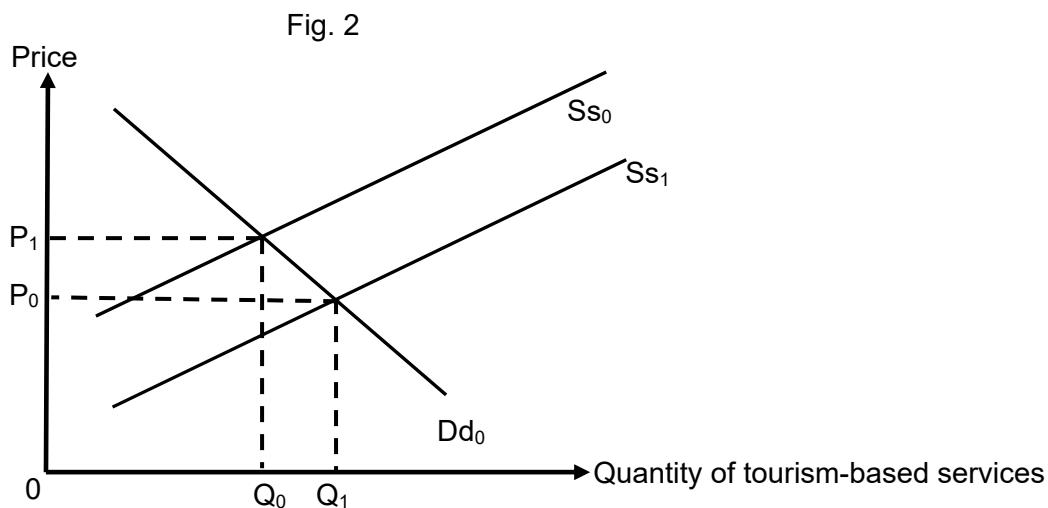
Demand factors:

- Better than expected **global economic recovery** → increase in income. As income increases, the concept of **income elasticity of demand** can be applied. Income elasticity of demand measures the responsiveness of demand to a change in income, ceteris paribus. Given that demand for tourism-based services is income elastic, as it is a luxury good, the increase in income would have resulted in a more than proportionate increase in the demand for tourism-based services, resulting in a significant increase in its equilibrium quantity. This accounts for the increase in volume of tourism-based services.
- The Singapore Tourism Board and its industry partners also have engaged in marketing efforts to promote tourism in the country, such as through various campaigns and by tapping on online platforms. This could have resulted in a change in **taste and preference** in favour of tourism in Singapore. This again will result in an increase in demand.
- Entrance of budget airlines into the air travel market increases the supply of air travel, reducing the price of air travel. As air travel and tourism-based services are close complements, the demand for tourism-based services is highly negatively cross elastic in relation to price of air travel. **Cross elasticity of demand** measures the responsiveness of demand of one good to a change in price of another good, ceteris paribus. A lower price of air travel will increase the quantity demanded of it and hence demand for tourism-based services would increase by more than proportionately.
- As demand increases, the concept of **price elasticity of supply** can be applied. Price elasticity of supply measures the responsiveness of quantity supplied of a good to a change in its price, ceteris paribus. Supply of tourism-based services is relatively price elastic given the availability of spare capacity. There has been an expansion in the tourism industry over the years with creation of more tourist spots. Given the increase in demand due to above-mentioned factors, the demand curve shifts from Dd_0 to Dd_1 as shown in Fig. 1. Price would increase, causing a more than proportionate increase in quantity supplied of tourism services from Q_0 to Q_1 . This accounts for the reported change in volume of the tourism-based services.

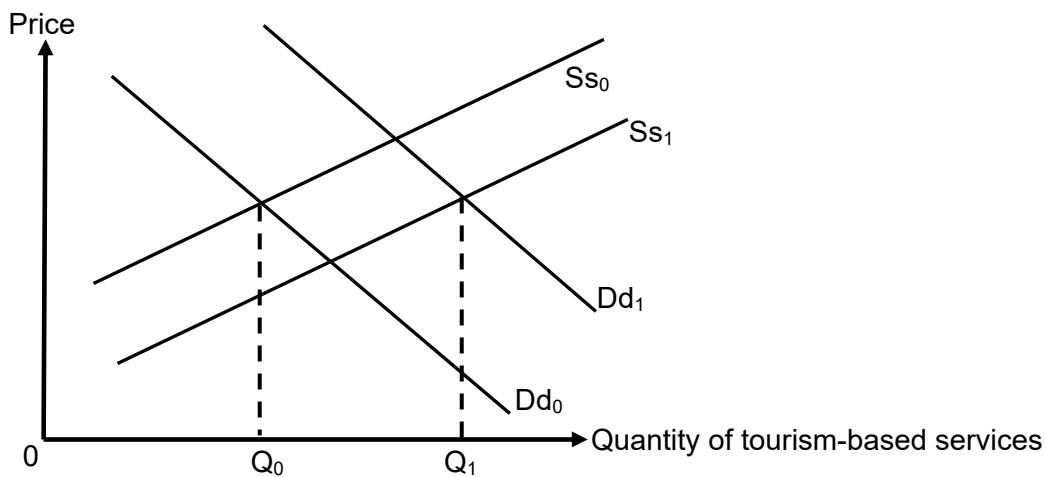


❖ **Supply factors:**

- There has also been many **government initiatives** to support competitiveness and innovation in the industry. For instance, the Singapore Tourism Board provides grants to support companies in areas of capability development, event development and product development. This could reduce the cost of production incurred by the firms, increasing supply of tourism-based industries.
- **Technological advancement** also enables firms to adopt more automation in provision of tourism-based services, such as the use of self-service kiosks. With the use of technology, output per unit of input increases, reducing cost per unit of output. This increases supply of tourism-based services.
- As supply increases, the concept of **price elasticity of demand** can be applied. Price elasticity of demand measures the responsiveness of quantity demanded of a good to a change in its price, ceteris paribus. Demand for tourism-based services in Singapore is price elastic due to availability of substitutes such as tourism-based services in other countries. Given the increase in supply due to the factors mentioned earlier, the supply curve shifts from Ss_0 to Ss_1 as shown in Fig. 2 below. The reduction in price due to the increase in supply will result in a more than proportionate increase in quantity demanded of tourism-based services from Q_0 to Q_1 . This accounts for the reported change in volume of the tourism-based services.



- Both the increase in demand and supply will result in an increase in the quantity of tourism-based services as shown below from Q_0 to Q_1 , hence the increase in the volume of tourism-based services.



- ❖ **EV:** Demand-side factors, particularly the global economic recovery, is likely to be the most significant factor contributing to the increase in volume of tourism in Singapore. The economic recovery was stronger than expected, hence income increases to a large extent, amplifying the increase in demand. In addition, in recent years, Singapore has developed various high-end tourism experiences such as the Gardens by the Bay, the Integrated Resorts and Universal Studios. As these services appear more luxurious, the YED value is much greater than one, causing a more significant increase in demand due to the increase in income. Supply factors mentioned earlier are likely to be less significant as their effects tend to be gradual in nature, and unlikely to cause the significant rise in volume of tourism-based services.

Knowledge, Application/Understanding and Analysis		
L3	For an answer that applies thorough economic analysis, with consideration of context, in accounting for the increase in the volume of the tourism-based services.	15-20
L2	For an answer that applies some economic analysis in accounting for the increase in volume of the tourism-based services.	9-14
L1	For an answer that shows knowledge of factors that might account for the increase in volume of the tourism-based services.	1-8

E3	For an answer that uses analysis to support an evaluative conclusion on the most significant factor that accounts for the increase in the volume of the tourism-based services.	4-5
E2	For an answer that makes some attempt at evaluation or a conclusion about the most significant factor that accounts for the increase in volume of the tourism-based services.	2-3
E1	For an answer that gives an unsupported evaluative statement.	1

Essay 2

Ten years ago, it seemed like Walmart had monopoly power when it came to retail. Today, Walmart has been displaced by an online retailer, Amazon. Walmart has had to deal with risks and uncertainty like the trend towards e-commerce and slower economic growth while trying to compete.

(a) Explain the factors that a firm considers in deciding whether to be larger. [10]

Factor	Elaboration
Constraints	<p>1. Need to consider how constraints may affect the willingness or ability to grow. For instance, government policy may prevent firms from growing (prevent merger) or the amount of financial capital or loans that firms can get access to will also determine if a firm can fund expansion.</p>
Advantages (Benefits)	<p><u>Revenue advantages</u></p> <p>1. Higher market share may mean that demand becomes more price inelastic \rightarrow due to lower availability of substitutes \rightarrow firms can now choose to increase prices to increase revenue rather than lower prices \rightarrow more sustainable method to increase profits, ceteris paribus.</p> <p>2. By becoming larger, firms can also gain more price setting ability to deter entry and increase market share by engaging in predatory pricing \rightarrow can increase profits in the long run</p> <p>3. There is still untapped demand in market \rightarrow can easily increase demand for firm's product \rightarrow by becoming larger, TR can increase.</p> <p><u>advantages</u></p> <p>4. Available internal economies of scale that firms can tap on as they grow large, e.g. marketing economies of scale where firms can purchase inputs (raw materials) in bulk and bargain for discounts and lower unit prices from suppliers \rightarrow lower costs and hence, ceteris paribus, increase profits.</p>
Disadvantages (Costs)	<p>1. Economic growth is slowing \rightarrow Higher business risks and uncertainty \rightarrow vertical integration may provide higher risks due to more inflexible cost structure \rightarrow lower growth may lead to fall in demand and TR but TC is now higher and more difficult to lower \rightarrow lower profits</p> <p>2. Growing larger may result in the onset of diseconomies of scale \rightarrow higher unit costs \rightarrow may lead to lower profits</p>
Other possible factors:	<p>Considering different perspectives: Situation in the economy \rightarrow falling demand due to slowing growth \rightarrow may then choose to diversify into other product markets (i.e. inferior goods)</p> <p>Perspective of rival firms and rival's action in response to the firm growing, i.e. unsustainable price wars with uncertain effects.</p>

Knowledge, Application/Understanding and Analysis		
L3	For a well-developed answer with at least three factors and includes both revenue and cost advantages/disadvantages. Consideration of factors should link to how profits enjoyed by the firm is affected unless factor to consider is an alternative objective of the firm. Good use of examples to illustrate the effects on revenue/costs.	8 – 10
L2	For an underdeveloped answer that consider at least two factors on revenue and/or cost advantages/disadvantages.	5 – 7
L1	For an answer that lacks scope and depth, or is a mere listing of points. There may be multiple major conceptual errors.	1 – 4

(b) Discuss whether the determination of Walmart's decisions and strategies are more dependent on competitors' actions or business risks and uncertainty.

[15]

Dependent on...	Elaboration
Competitors' actions - Pricing strategies - Non-pricing strategies	<p>(affects Walmart's pricing and output, shutdown decision) Walmart is likely to operate in a competitive oligopolistic market structure where this is a high degree of mutual interdependence and rival consciousness.</p> <p>If rivals (such as Amazon) lower prices, Walmart will also respond with lower prices of similar or larger magnitude to maintain its market share and profit levels.</p> <p>If rivals lower prices to the point where it is below Walmart's AVC, it will choose to shut down.</p> <p>(affects Walmart's pricing and non-pricing strategies) Trend towards e-commerce ⑦ Walmart will also innovate and product differentiate by offering an online platform. Furthermore, as a large incumbent firm, Walmart may even choose to merge with or acquire new online e-commerce start-ups to expand its operation.</p> <p>Advertising and promotion campaigns during festive seasons ⑦ Walmart will offer similar promotions i.e. express shipping/free delivery or extensive membership programmes and benefits ⑦ Maintain market share and supernormal profits</p>
Business risks and uncertainty - Uncertainty in revenue - Uncertainty in costs	<p>(affects Walmart's growth decisions and non-pricing strategies) Slowing economic growth ⑦ Walmart may recognise the volatility in economic conditions and offer a larger variety of goods and diversify e.g. horizontal integration, to establish more revenue streams. Alternatively, in light of the slowing growth, Walmart may also offer own label products which may be perceived as inferior. Inferior goods will enjoy rise in demand during economic uncertainty and lead to higher revenue and profits for Walmart.</p> <p>If PED is uncertain, Walmart may use a combination of price and non-pricing strategies to make predicted changes in revenue more certain. E.g. Advertising and promotion campaigns to alter tastes and preferences to make demand price inelastic before raising prices or vice versa.</p> <p>(affects Walmart's growth decisions and non-pricing strategies) Walmart may diversify into factor markets (vertical integration) to have more certainty in costs of production.</p> <p>Walmart may even invest in new technology to tackle potentially rising costs but do so by procuring R&D outcomes rather than</p>

	embarking on their own research projects. For instance, Walmart may improve efficiency by using self-checkout machines developed by other firms and not create their own. Walmart may also leverage established e-commerce payment platforms (i.e. paypal) rather than create their own payment systems. This may lead to lower costs for Walmart.
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More or less dependent on competitors' actions or business risks and uncertainty depends on...	
Time period	<p>Business risks and uncertainty may become less significant over time as Walmart can gather more information. Thus, this may be important in the short run but in the long run, Walmart's actions are more likely to be dependent on actions of its competitors.</p> <p>In the long run, if more firms enter the market and Walmart loses its market share, the market structure might transform into a monopolistically competitive one where there is a significantly lower degree of mutual interdependence. In this scenario, the decisions and strategies of Walmart would be more affected by business risks and uncertainty rather than actions of its many rivals.</p>
Situation in the economy (actions by other economic agents, i.e. government)	<p>If the government implements policies to create a favourable business environment, the effectiveness of the policies may determine whether Walmart is still concerned about business risks and uncertainty. If the policies are effective, Walmart will then be more concerned about the actions of its rivals.</p> <p>Furthermore, rivals in the market are also simultaneously affected by events affecting Walmart. Hence, Walmart may be more concerned about how rivals are reacting to the events and the indirect effects on their profits, rather than how they may be directly affected.</p>

Knowledge, Application/Understanding and Analysis		
L3	For a well-developed, well-balanced answer with at least three points of argument. Scope of points should be demonstrated in terms of both revenue and cost considerations as well as different decisions and strategies. Arguments should be contextualised to the given market.	8 – 10
L2	For an underdeveloped, balanced answer that consider at least one argument each for how competitor's action and business risks and uncertainty affects a firm's decision and strategy.	5 – 7
L1	For an answer that lacks scope and depth. There may be multiple conceptual errors.	1 – 4

E3	For an answer that arrives at an analytically well-reasoned judgement	4 – 5
E2	For an answer that makes some attempt at a judgement	2 – 3
E1	For an answer that gives an unsupported statement	1

Essay 3

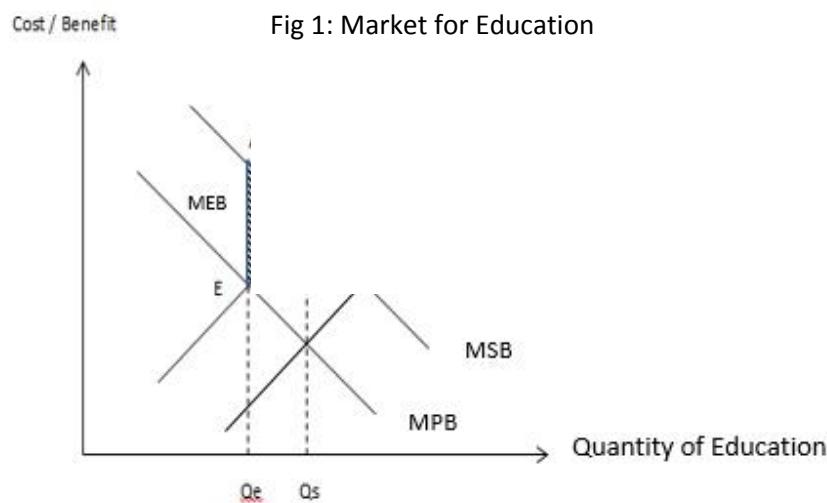
Governments typically intervene in the market for education in several ways.

Explain why government intervention is needed in the market for education, and discuss whether such intervention will help a government meet its microeconomic objectives.

[25]

Government intervention is needed in the market for education as it is considered a merit good. Merit goods are deemed socially desirable by the government but under-consumed due to the presence of positive externality and imperfect information, leading to inefficient allocation of resources which is one of the government's microeconomic objectives. In addition, government intervention is needed as there may be inequitable distribution of resources in the market for education.

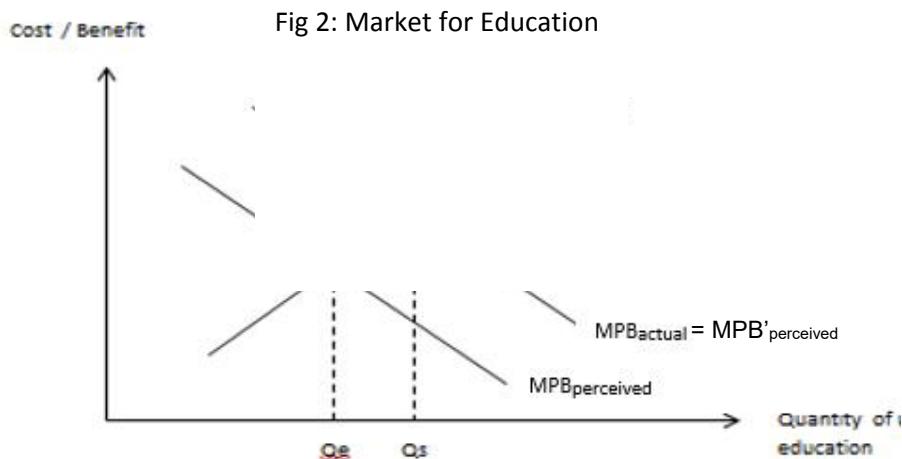
The private costs of education include tuition fees and the opportunity cost of not earning income from working while the private benefits include the gain of knowledge, better employment opportunities and potential higher wages in future from a higher level of education. In addition, education exhibits positive externalities from consumption such as the transfer of knowledge and skills to co-workers which can then help to increase their productivity and possibly income too. The employers could also profit from the increased productivity due to the more educated and skilled labour. This causes social benefits to be higher than private benefits and is illustrated by the divergence between MSB and MPB in the diagram. In deciding how much education to consume, the rational and self-interested consumer will not consider the positive externalities and only weigh his marginal private cost (MPC) against the marginal private benefit (MPB) and consume to the point where $MPC = MPB$ at Q_e . However, the socially optimal level of consumption is where marginal social cost (MSC) = marginal social benefit (MSB) at Q_s .



There is thus under-consumption of education by the amount $Q_e - Q_s$. At Q_e , MSB is greater than MSC. Society values an additional unit of education more than what it would cost society to consume it and there is deadweight loss by the area ABE. Society could be made better off if consumption of education were increased to the socially optimal level at Q_s .

Besides the presence of positive externality, there is also imperfect information. Consumers under-estimate future returns on higher education due to incomplete knowledge about the full longer-term benefits from education. Knowledge of private benefits is an ongoing

learning process, and it is especially difficult to realise the long term gains from education at an early stage. Moreover, calculating future earnings is usually based on past data and may require technical knowledge that is complex. This causes the actual private benefits to be higher than the perceived private benefits and is illustrated by the divergence between MPB_{actual} and $MPB_{perceived}$ in Fig 2. Again, in deciding how much education to consume, the rational and self-interested consumer will consume to the point where $MPC = MPB_{perceived}$ at Q_e . However, the optimal level of consumption is where $MPC = MPB_{actual}$ at Q_s . There is thus under-consumption of education by the amount $Q_e Q_s$. At Q_e , MPB is greater than MPC , resulting again in deadweight loss.



Furthermore, there may be inequitable allocation of resources in the market for education. Since the free market responds to “dollar votes”, those with higher incomes are likely to determine which goods and services will be produced, as resources are allocated in order to satisfy the consumers’ effective demand (i.e. both willingness and ability to buy). In this case, resources would inevitably be channelled to the production of education demanded by consumers with higher income. Education may thus be priced out of reach of the lower income groups due to the lack of ability to pay. In other words, those who are unable to afford education may not get a chance to attend school.

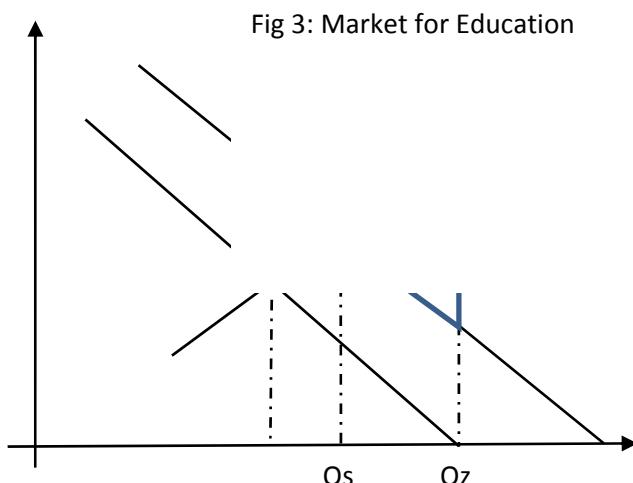
From a socio-political viewpoint, it is extremely important to achieve an equitable distribution of income in the economy as it improves the non-material standard of living of the country. As education is perceived to be a key instrument of achieving this distributive function in the long run, governments try to ensure that it remains affordable to the poorer sections of the economy. Typically the governments subsidise education in order to let it enable redistribute resources in the long run, expecting that the poor would get richer empowered by the knowledge achieved through education.

To better achieve the microeconomic objectives of efficiency and equity, governments typically intervene in the market for education in several ways. First, governments can provide a subsidy equal to the marginal external benefit (MEB) at Q_s , lowering the cost of education, as illustrated by a rightward shift of the MPC curve from MPC to $MPC_{Subsidy}$. The subsidy causes consumers to take into consideration the positive externality and will consume where $MPB = MPC_{Subsidy}$. This allows consumption to then be at the socially optimal level, Q_s , eliminating the deadweight loss previously due to under-consumption. One example of such an intervention is the government’s yearly contribution to students’ Edusave accounts which they can use to pay for their school fees or the Financial Assistance Scheme

where school fees and miscellaneous fees for students from lower-income households are waived and textbooks are provided free by the government.

Such a subsidy not only helps the government to meet the microeconomic objective of efficiency but also allows the government to achieve a more equitable distribution of resources in the economy. This is because subsidies make education more affordable, thus children from low income families are better able to gain access to it. If subsidies were not provided, children from lower income households may not receive education and are employed in lower-paying jobs which do not require much expertise while those from high-income families receive education and subsequently are able to land better paying jobs due to their higher level of skills and knowledge. The income gap between the rich and the poor would then likely widen over time, worsening inequity.

However, it may be difficult to provide the right amount of subsidies as there may not be sufficient information to accurately assess the value of the positive externality. If the subsidy provided is too little, the market failure will only be partially corrected while over-subsidising may instead result in greater deadweight loss. For example, if the amount of positive externality is not significant but governments fully subsidise education such that it is provided free at Q_z , it will cause the area of deadweight loss to be larger at B as compared to the original area A as shown in Fig 3.



Quantity of Education

Costs/Benefits

Q_e

MEB

MSB

MPB

$MPC = MSC$

B

Moreover, providing subsidies to consumers may put a strain on the government's budget or it may require resources to be diverted from other areas, incurring opportunity cost.

To tackle the other cause of market failure, that is imperfect information, the government can provide information to better help consumers understand the true benefits of education. More information such as the average starting pay and the qualifications required for various jobs can be provided, for example, through online portals like mycareersfuture.sg. With more information, the consumers will be more aware of the actual private benefits from education, illustrated by the rightward shift of the MPB curve from $MPB_{perceived}$ to MPB_{actual} in Fig 2. Consumers will then maximise their utility by consuming where $MPB_{actual} = MPB$ and this is where Q_s is, therefore reaching the optimal level of consumption.

Provision of information merely provides market participants with better information but does not artificially distort the workings of the free market. This is favourable, especially from the perspective of proponents of the free market. However, the outcome is uncertain. This is because people may not even bother to access the information in the first place and even if they do, they may already have a pre-existing mindset on the benefits of education and the information provided may still not change their views. If so, the intervention will not help the government meet its microeconomic objective of efficiency.

Another common way for the government to intervene is through rules and regulations. For example, under the Compulsory Education Act in Singapore, it is compulsory for children born after 1 January 1996 to receive a minimum of six years of primary education. A government agency checks for compliance and parents who do not comply with the legislation are fined. This ensures that consumption of education is near, if not, at the socially optimal level.

The advantage of such an intervention is that it is simple and clear to follow and is relatively straightforward to administer. However, for it to be effective, there must be inspections and the penalty must be sufficiently harsh to have a deterrent effect. In large countries, enforcement measures can be costly. Moreover, rules and regulations may be more difficult to change when marginal external costs or benefits change given the need for legislative approval. Thus, consumption may not be at the socially optimal level when external benefits change.

In conclusion, whether such intervention will help a government meet its microeconomic objectives depends on various factors such as the amount of information the government has and the budget position. In developing countries, data collection is not as advanced or comprehensive and governments may not be able to accurately determine the amount of subsidies to be given, thus deadweight loss or market failure still remains.

Also, if a country has a budget deficit or public debt, it may be difficult for the government to be able to provide the subsidies that are necessary for the socially optimal level of consumption to be reached. If there are more urgent issues that the economy is facing, the government may decide to allocate more resources in those areas rather than subsidising education, causing both the microeconomic objectives not to be met. Nevertheless, it is more likely that intervention in the market for education can help to reduce the amount of inequity and allocative inefficiency though they may not be completely eliminated.

Knowledge, Application/Understanding and Analysis		
L3	For an answer that gives a detailed and analytic explanation of why government intervention is needed in the market for education and whether government intervention will help to meet its microeconomic objectives.	15-20
L2	For an answer that gives an underdeveloped descriptive explanation of why government intervention is needed in the market for education and whether government intervention will help to meet its microeconomic objectives.	9-14
L1	For an answer that shows some knowledge of the reasons why government intervention is needed in the market for education and whether government intervention will help to meet its microeconomic objectives. Contains conceptual errors.	1-8
E3	For an answer that arrives at an analytically well-reasoned judgement about whether government intervention will help to meet its microeconomic objectives	4 – 5
E2	For an answer that makes some attempt at a judgement about whether government intervention will help to meet its microeconomic objectives	2 – 3
E1	For an answer that gives an unsupported statement about whether government intervention will help to meet its microeconomic objectives	1

Essay 4

The central bank of the US has raised interest rates from 0.1% in 2015 to 0.7% in 2016.

Source: The Federal Reserve, 2016

Explain the internal and external impacts of the increase in interest rates by the US central bank on the Singapore economy and discuss the view that fiscal policy is the best policy for Singapore to address the possible adverse impacts.

[25]

A rise in interest rates would increase the cost of borrowing and the opportunity cost of consumption as returns from savings are higher. Consumers would thus prefer to save and reduce their consumption expenditure. Firms would find that with the higher cost of borrowing and with the rate of returns remaining constant, the number of profitable projects would decrease and thus lower their investment expenditure. With a fall in both autonomous consumption and investment expenditure, there will be a fall in aggregate demand, causing a multiplied decrease in real national income in the US via the multiplier effect.

The fall in the US real national income means that there is a decrease in purchasing power and a consequent decrease in import demand. As US is Singapore's main trading partner, the decrease in demand for Singapore's exports from the US will cause a substantial decrease in our export revenue. Assuming that import expenditure of Singapore remains unchanged, this will result in a decrease in net exports, decreasing aggregate demand (AD). There will thus be a multiplied decrease in Singapore's real national income. The decrease in production also results in a decrease in the derived demand for labour, leading to a rise in demand deficient unemployment.

Also the fall in national income in the US may lead to a fall in expectations of future growth. As the US is the largest economy in the world, there might be a fall in FDI to Singapore as foreign investors are likely to invest in Singapore to produce goods and services for overseas markets. The fall in FDI might result in a fall in I, and the subsequent fall in AD, fall in real national income and increase in unemployment. Also, a fall in I can lead to a fall in productivity and thus productive capacity, hindering potential growth in Singapore.

The rise in interest rates could also attract short term investments into the US. There is thus an inflow of hot money into US as investors seek expect higher rates of returns. This will increase the demand for US currency, causing an appreciation of the US dollar (US\$). In Singapore, however, there may be hot money outflow if interest rates are relatively lower. This would cause a worsening of the capital and financial account in Singapore. Coupled

with the decrease in net exports that worsens the current account, the BOP position of Singapore would worsen in the short run.

In addition, with an increase in short term capital outflow from Singapore, the supply of the Singapore dollar (SGD) would increase. This will result in a depreciation of the SGD, increasing the domestic price of imported raw materials and thus cost of production, leading to a fall in the SRAS and a rise in imported inflation.

In summary, the adverse impacts of an increase in US's interest rates could be a fall in ($X-M$) and I , causing AD to fall and Singapore's real national income to fall by a multiplied amount. There could also be an increase in unemployment as well as an increase in imported inflation.

To address the impact of a fall in net exports, Singapore can engage in expansionary fiscal policy to stimulate economic activity and reduce demand-deficient unemployment. For example, the Singapore government can bring forward the building of economic and social infrastructure. With an increase in government expenditure (G), AD will increase. Additionally, consumption (C) and investment expenditure (I) can be boosted through the reduction of personal income tax or corporate tax rates. When income tax rates are reduced, households would have more disposable income to increase their consumption expenditure. When corporate tax rates are reduced, firms would enjoy higher after-tax profits and be more willing and able to invest on new capital goods. With the increase in C , I and G , the fall in ($X-M$) and I due to the increase in interest rates could be offset, thus alleviating the adverse impacts on real national income and employment.

Expansionary fiscal policy can work relatively quickly in boosting growth and employment. Furthermore, Singapore is unlikely to suffer from the crowding out effect as the Singapore government has adopted a prudent approach to its fiscal policy, consistently keeping the budget balanced, achieving modest budget surpluses in normal years, and building up reserves over time.

However, there are limitations to the use of fiscal policy. The size of the multiplier is likely to be small. This is because Singapore lacks natural resources and is heavily dependent on imported raw materials, intermediate goods and final products. As such, its marginal propensity to import is high. In addition, Singapore has compulsory savings in the form of the Central Provident Fund and the marginal propensity to save is also high. Since there are large leakages out of the circular flow of income, the impact of fiscal policy on real national income is smaller.

To address the adverse impact of imported inflation, exchange rate policy may be a better policy than fiscal policy. A gradual and modest appreciation of the SGD will directly help to lower the domestic price of imported raw materials and reduce the cost of production. This increases the SRAS and addresses the root cause of the problem.

However, a stronger Singapore dollar would result in an increase in the foreign price of exports and a fall in the domestic price of imports. In the long run, firms are no longer bounded by contracts and are able to switch to cheaper alternatives. The Marshall-Lerner condition is thus likely to be satisfied, and an appreciation will lead to a fall in net exports which will aggravate the problem of a decline in exports. Therefore, there is a need for Singapore to also adopt supply side policies to boost its export competitiveness.

As a long term policy, supply side policies are better than fiscal and monetary policies as it helps to enhance the price and non-price competitiveness of exports and also increase the productive capacity of Singapore. This can help Singapore to achieve sustained, non-

inflationary growth. Examples include tax credits for R&D and subsidies for upskilling. In Singapore, the Workforce Development Agency pays up to 90% of skills upgrading course fees. Such programmes increase the level of skill mastery, increasing the productivity and quality of labour. The fall in unit cost of labour will cause a fall in the price of exports, making exports more price competitive. Also, R&D subsidies can create more incentives for firms to engage in innovation, improving the non-price competitiveness of Singapore's exports, thereby increasing the demand for Singapore's exports and increasing net exports.

However, supply side policies have limitations too. Supply-side policies tend to require a longer time to take effect and the outcomes are uncertain. For example, workers need to embrace the concept of lifelong learning before they are willing to embark on training programmes to enhance their employability.

In conclusion, fiscal policy may be the best policy in terms of reducing the adverse impact of a fall in real national income and an increase in unemployment but not the best in ensuring price stability. Fiscal policy as a demand-management policy and monetary policy can be adopted in the short run to have a more immediate impact on AD and/or SRAS but in the long run, supply side policies are still needed. There is thus no single best policy to address the various possible adverse impacts brought about by the increase in US interest rates. According to Tinbergen's rule, the number of policies should be at least equal to the number of economic objectives. Therefore, both demand management and supply-side policies should be adopted to complement one another in achieving the different macroeconomic objectives.

However, we should also note that the increase in interest rates in the US may not affect Singapore much as it is an interest-rate taker. Domestic interest rates in Singapore will largely follow US interest rates and there is thus not much difference between interest rates in Singapore and US to cause a change in capital flow or exchange rates. Also, the interest rate hike in the US is likely to be due to the US central bank preventing demand pull inflation in US due to stronger economic growth. Thus the hike in the interest rates may not even have adverse impacts on the Singapore economy.

Regardless, as a small country with few natural resources, it is still critical that Singapore continuously innovates to maintain a competitive edge over other countries and sustain its economic growth regardless of changes occurring in other countries.

Note: Students who explained that the adverse impact is a fall in (X-M) but no change in exchange rate can suggest reducing the rate of appreciation or zero appreciation to address the adverse impacts of a rise in US interest rates.

Knowledge, Application/Understanding and Analysis		
L3	A comprehensive and detailed answer that provides an explanation on the internal and external impacts on the Singapore economy with a rise in US interest rates. Provides a balanced discussion, using appropriate tools of analysis and diagrams to discuss a range of policies that address the adverse impacts on the SG economy.	15-20
L2	An answer that provides a balanced but under-developed discussion on the internal and external impacts on the Singapore economy with a rise in US interest rates. A range of appropriate policies to address the adverse impacts on the SG economy are discussed.	9-14

L1	An answer that is mostly descriptive, with some inaccuracies and is not in the context of US and Singapore.	1-8
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E3	An answer that arrives at an analytically well-reasoned judgement on whether fiscal policy is the best policy to address the adverse impacts on the SG economy.	4 – 5
E2	Some attempt at a judgement on whether fiscal policy is the best policy to address the adverse impacts on the SG economy.	2 – 3
E1	For an unexplained judgement, or one that is not supported by economic analysis.	1

Essay 5

China has long been widely touted as a nation of savers. Credit Suisse pegs China's savings rate at 32% of household income.

Source: Nikkei Asian Review, 2018

**(a) Explain the factors that cause household savings to be high.
[10]**

Savings is the part of disposable income that is not spent. Higher household savings will cause expenditure on consumption to fall, thus reducing AD. Factors affecting savings are largely similar to factors affecting the level of consumption.

Autonomous savings

Interest rates

Interest rate refers to the rate at which a deposit (i.e. savings) with the bank increases over time. Interest is regarded as the reward for savings. A high interest rate will allow households to earn more interest from savings, i.e. the reward for savings increases. This will incentivise people to save, causing household savings to be high.

Expectations

Households' expectations about the economic outlook play a crucial role in their decision to save. If households are expecting an economic downturn in future, they are likely to increase the level of savings since savings provide a precautionary buffer against possible job losses or fall in income levels in future. This would cause household savings to be high.

If households expect a lower or negative rate of inflation in future, they will save more now and postpone their consumption expenditure till prices are lower. This would also cause household savings to be high.

Preference of households

The level of savings can be dependent on the mindset and the lifestyles of households in the economy. Saving habits are influenced by factors such as culture, for e.g. Asians value thrift and responsibility and will seek to save more, especially to ensure that they have enough for retirement or to be able to leave assets to their children as a bequest. This would cause household savings to be high.

Government policies

There are also government policies which affects the community's attitude in savings. For example, in Singapore, there is a national savings scheme whereby all working individuals have to make compulsory monthly contributions to the Central Provident Fund (CPF). CPF savings ensures that the individuals have sufficient savings for retirement as well as medical expenses. This compulsory aspect of savings has allowed Singapore to have one of the highest saving rates in the world.

Induced savings

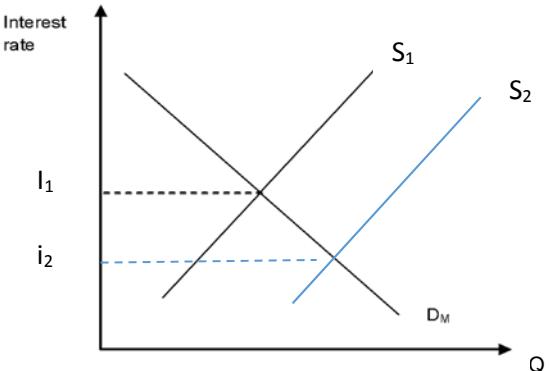
Induced savings changes in response to changes in the level of national income and is positively related to it. When income levels are high, households are likely to be able to save a more of their income after consumption, thereby causing household savings to be high.

Knowledge, Application/Understanding and Analysis		
L3	For an answer that uses appropriate analysis to explain the various factors affecting savings rates	8 – 10
L2	A descriptive explanation of key factors affecting savings rates	5 – 7
L1	Knowledge of key factors affecting savings and/or unexplained/ answer contains some conceptual errors	1 – 4

(b) Discuss whether higher household savings rates are desirable for an economy. [15]

Introduction

- Increase in savings implies fall in consumption
- Desirability measured in terms of achieving the macroeconomic objectives

Undesirable	Desirable
Internal impact on Economic Growth, Employment and Price Stability	
<u>Assuming economy operating below full employment level:</u> <u>Short term impact:</u> <ul style="list-style-type: none"> • Paradox of thrift: Increase in S causes C to fall \rightarrow AD will fall and RNO will fall by multiplied amount \rightarrow impedes economic growth or slows down economic recovery. • Since firms produce less, derived demand for labour falls \rightarrow increase in demand deficient unemployment • For countries facing deflation like Japan, fall in AD will cause GPL to fall. If this causes consumers to further lower C due to expectations of lower prices, AD will continue to fall causing the economy to go on a deflationary spiral. 	<u>Assuming economy operating near or at full employment level:</u> <ul style="list-style-type: none"> • Fall in AD can help to dampen demand pull inflation.
<u>Less effective demand management policies:</u> <ul style="list-style-type: none"> • Since APS is high, MPS may also be high, causing k to be relatively small. • Therefore, impact of expansionary FP such as increase in G to stimulate real national income will be limited. 	
	
<ul style="list-style-type: none"> • In the short run, investment helps to increase real national income and actual growth. • In the long run, investment leads to higher productivity and productive capacity, increasing LRAS and achieving potential growth. • Overall, prices are kept stable and low rate of unemployment is attained. 	
External impact on Balance of Payments and Exchange rate	
Capital and financial account <ul style="list-style-type: none"> • As supply of loanable funds increases, interest rates fall. This results in the outflow of hot money as the rate of returns is now lower. Capital and financial account worsens. 	Current account <ul style="list-style-type: none"> • Consumers may reduce expenditure on imported goods, trade balance and thus current account improves, ceteris paribus.
Overall impact on BOP depends on the relative change in both accounts <ul style="list-style-type: none"> • If there is a net currency outflow, the BOP position will deteriorate and the exchange rate will also depreciate. This may worsen the external stability of the economy. 	

Current Standard of living (SOL)	Future Standard of living (SOL)
<ul style="list-style-type: none"> • Current SOL refers to the amount of goods and services that individuals have available for current consumption. Lower consumption as a result of higher savings rates will worsen current material SOL. 	<ul style="list-style-type: none"> • Future SOL refers to the amount of goods and services available for future consumption. • Higher savings rate allows higher expenditure on investment which can help to increase the productive capacity of the economy. With an increase in the ability to produce more goods and services in future, consumption can increase by more in the future, improving future material SOL.
Evaluation	
<p>[Weigh] According to the Classical school of thought, savings is beneficial to help economies achieve growth and its other macroeconomic objectives. However, based on the Keynesian school of thought, savings will actually slow down economic growth. This is detrimental to countries especially in the globalised economy in recent years. As countries decouple and are less dependent on external sources for growth, they will need to stimulate domestic consumption and investment more.</p> <p>[Recommend] While high savings rate can bring about negative impacts, government may also implement policies to address the situation in the economy. Hence, the overall impact may not be undesirable, depending on the nature of the economy as well as its current situation.</p>	

Knowledge, Application/Understanding and Analysis		
L3	For an answer using analysis to give a clear analysis of the costs and benefits of higher household savings for an economy	8 – 10
L2	For an answer giving a largely descriptive explanation of the costs and benefits of higher household savings for an economy	5 – 7
L1	For an answer that shows knowledge of the costs and benefits of higher household savings. One-sided answer on either the costs or benefits. Largely unexplained knowledge of the impact of higher savings for an economy.	1 – 4
E3	For an answer that arrives at an analytical well-reasoned judgement	4 – 5
E2	For an answer that makes some attempt at a judgement	2 – 3
E1	For an answer that gives an unsupported statement	1

Essay 6

An economist stated ‘Globalisation affects all corners of the world, yet requires more government control, not less’.

**(a) Explain how globalisation impacts a country’s balance of payments position.
[10]**

	Current Account	Capital and Financial Account
Increased trade flows	<ul style="list-style-type: none"> ● Reduction of trade barriers \rightarrow countries can specialise based on their area of comparative advantage, i.e. produce goods that they incur lower opportunity cost in \rightarrow this enables them to charge lower prices \rightarrow assuming $PED >1$, the lower prices will result in a more than proportionate increase in quantity demanded \rightarrow higher export revenue (X) \rightarrow improvement in g/s balance on the current account ● Greater contestability \rightarrow increased threat of potential competition from imported g/s \rightarrow incentive for incumbent firms to innovate \rightarrow improvement in price and non-price competitiveness <ul style="list-style-type: none"> ○ Improvement in price competitiveness, with $PED >1$ as analysed earlier, will increase X \rightarrow improvement in g/s balance on the current account ○ Improvement in non-price competitiveness will increase the demand for exports \rightarrow increase X \rightarrow improvement in g/s balance on the current account ● If higher demand for exports is not met by an increase in productive capacity in export-related industries \rightarrow compete for increasingly scarce factors of production \rightarrow rise in demand-pull inflation \rightarrow worsen price competitiveness of exports in the longer term \rightarrow may limit improvement in g/s balance on the current account ● Access to cheaper imported raw materials \rightarrow improve export 	<ul style="list-style-type: none"> ● Heightened growth potential with the larger export market \rightarrow healthy business prospects \rightarrow may attract FDI (long-term capital) inflow to capitalise on the opportunities \rightarrow improvement of the capital and financial account

	competitiveness ⑦ improvement in the current account	
Increased labour flows	<ul style="list-style-type: none"> Labour inflow from foreign countries to tap on work opportunities ⑦ migrant remittances of earnings back to home country ⑦ outflow in the secondary income balance on the current account ⑦ worsening of the current account 	<ul style="list-style-type: none"> Labour inflow ⑦ rise in SS of labour ⑦ lowers cost of production ⑦ attractive to FDI ⑦ improvement of the capital and financial account Labour outflow (i.e., brain drain) ⑦ risk being a disincentive to foreign firms to locate in the country ⑦ worsening of the capital and financial account
Increased capital flows	<ul style="list-style-type: none"> Repatriation of profits, interest and rent following capital outflow/inflow may improve/worsen the primary income balance on the current account 	<ul style="list-style-type: none"> Greater “hot money” flows ⑦ e.g., increase in interest rate in a country attracts short-term capital inflows ⑦ improve the capital and financial account Entry of foreign firms due to good economic outlook in a country ⑦ inflow of long-term capital (FDI) into the country ⑦ direct improvement of the capital and financial account

Knowledge, Application/Understanding and Analysis		
L3	For a <u>well-developed</u> answer with <u>at least three</u> impacts on <u>both</u> current and capital and financial accounts, and consideration of <u>all</u> features of globalisation (i.e., increased trade, labour and capital flows).	8 – 10
L2	For an <u>underdeveloped</u> answer that consider <u>at least two</u> impacts on <u>both</u> current and capital and financial accounts, and <u>some</u> consideration of the features of globalisation (i.e., increased trade, labour and capital flows).	5 – 7
L1	For an answer that lacks scope and depth, or is a mere listing of points. There may be multiple major conceptual errors.	1 – 4

(b) Discuss the view that the role of the Singapore government is more important with the rise of globalisation.

[15]

Introduction:

- Government functions ⑦ allocative, stabilisation, distributive, and growth functions

P1: Yes, more important

- Government has a role to mitigate the negative effects of globalisation:
 - Stabilisation role
 - Issue: vulnerability to external shocks due to dependence on foreign markets OR risk of structural unemployment with changing CA
 - Appropriate policy: Singapore continually expands and diversifies its network of trading partners OR SkillsFuture to encourage workers to retrain and reskill
 - Distributive role
 - Issue: widening inequity between higher-skilled and lower-skilled workers, possibly due to changing CA (e.g., shift from low-end to high-end manufacturing) or relocation/offshoring of production processes
 - Appropriate policy: redistributive policies, e.g., progressive income tax structure, GST vouchers tiered by income level
 - Allocative role
 - Issue: generation of negative externalities, e.g., problem gambling with the establishment of Integrated Resorts by foreign companies
 - Appropriate policy: legislation/tax for Singaporeans, public education efforts
- Government has a role to further augment the positive effects of globalisation:
 - Growth role
 - Issue: benefits of globalisation, including higher growth prospects from an expanded (external) market, higher potential growth from FDI inflow
 - Appropriate policy: SG to sign more bilateral, regional, and multilateral FTAs, competitive corporate tax rates in SG

P2: No, not more important

- Globalisation may have taken over some of the roles that governments traditionally play
 - E.g., previously, governments need to regulate markets closely to ensure efficiency ⑦ these days, increased competition/contestability as a result of globalisation is enough to keep incumbents on their toes and incentivise innovation (e.g., entrance of foreign banks and telco players into SG) ⑦

- higher efficiency, improved export competitiveness, sustained growth, etc ⑦ government intervention no longer needed
- Globalisation may have helped to overcome some inherent challenges that the SG government was trying to address
 - Tight labour market in SG ⑦ due to falling birth rates and aging population ⑦ may impact potential growth negatively ⑦ SG was trying to address through encouraging more births and raising retirement age ⑦ with globalisation, greater labour mobility across borders ⑦ rise in quantity and possibly also quality of labour for SG ⑦ increase in SG's LRAS ⑦ less need for government to step in to manage
 - Small domestic market in SG ⑦ globalisation has enabled SG firms to tap on the larger global export market + enabled FDI inflow to grow Singapore's productive capacity ⑦ actual (growth in AD) and potential growth (growth in LRAS) ⑦ less need for government to step in to stimulate growth
 - Self-correction of problems by the free market
 - E.g., slow growth ⑦ weak economic outlook for local households and firms ⑦ local households and firms may withhold spending ⑦ AD may fall ⑦ GPL fall ⑦ however, this may mean an improvement in export price competitiveness ⑦ with globalisation, more foreigners may purchase the cheaper SG exports ⑦ *ceteris paribus*, X and hence AD may rise ⑦ "automatic" correction of slow growth ⑦ no need for government intervention
 - Government intervention may cause more harm than good
 - E.g., protectionism (see below; can also be an EV point)
 - E.g., channelling resources to "combat" the effects of globalisation, when the resources could be better spent in other sectors

Conclusion/EV:

- Stand: Multiple functions for government ⑦ government's role has not been reduced ⑦ in fact, its role may be even more important/prominent than before
- Justify: Adapting to globalisation does not occur naturally ⑦ governments still need to be present to create conditions for successful integration with globalisation ⑦ e.g., need to create conditions for contestability to take place (e.g., granting more licences for foreign banks to operate in SG, granting of telco licence to Australian-based company TPG), need to help SMEs reach out globally (e.g., through Enterprise Singapore (formerly IE Singapore))
- A: Sometimes, by intervening, more harm than good is done
 - E.g., government may intervene in response to globalisation through erecting of trade barriers ⑦ briefly give an example of protectionism and negative consequences
- S: Importance of government intervention depends on the effects of globalisation
 - Where the effects of globalisation are mostly positive, it is less important for the government to intervene
 - If negative effects are more significant, the government will need to step in with mitigating measures

Note: There are many possible points of argument for this question, and the points given above are non-exhaustive. You also do not need all the above points to score the full range of marks.

Knowledge, Application/Understanding and Analysis		
L3	For a <u>well-developed, well-balanced</u> answer with <u>at least three</u> points of argument.	8 – 10
L2	For an <u>underdeveloped, balanced</u> answer that consider <u>at least two</u> points of argument.	5 – 7
L1	For an answer that lacks scope and depth. There may be multiple major conceptual errors.	1 – 4
<hr/>		
E3	For an answer that arrives at an analytically well-reasoned judgement	4 – 5
E2	For an answer that makes some attempt at a judgement	2 – 3
E1	For an answer that gives an unsupported statement	1



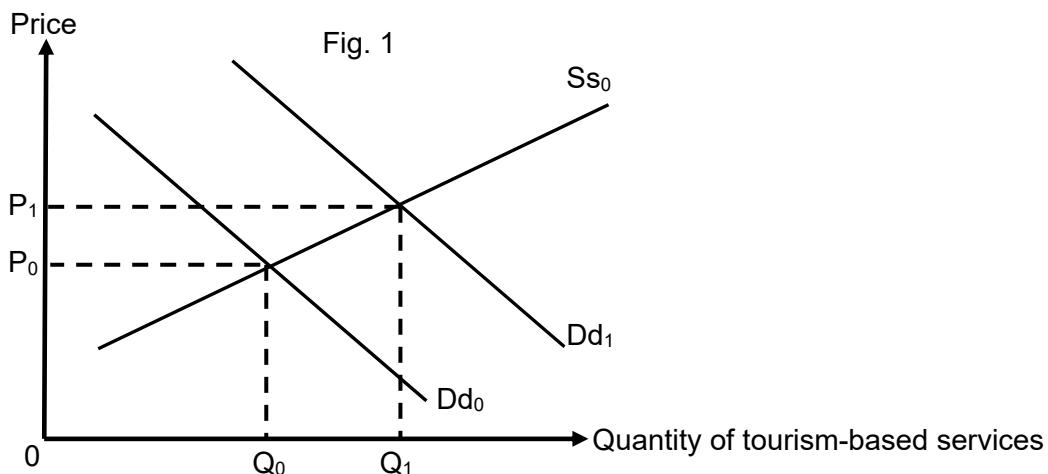
Essay 1

Singapore's visitor arrivals hit new record highs in 2017. This has resulted in the growth of tourism-based services.

Discuss the demand and supply factors that can account for the reported change in the volume of tourism-based services in Singapore and evaluate which is likely to be the most significant factor. [25]

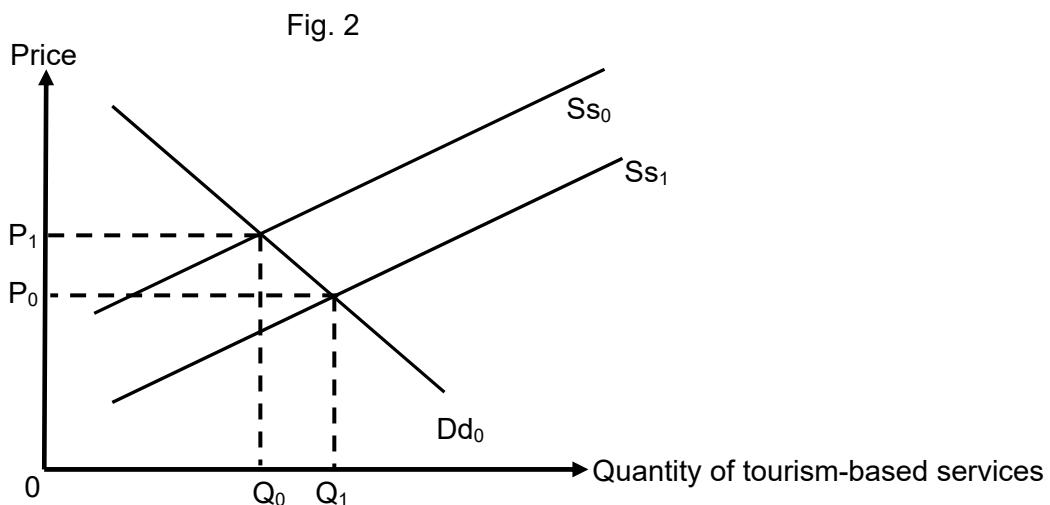
Demand factors:

- Better than expected **global economic recovery** → increase in income. As income increases, the concept of **income elasticity of demand** can be applied. Income elasticity of demand measures the responsiveness of demand to a change in income, ceteris paribus. Given that demand for tourism-based services is income elastic, as it is a luxury good, the increase in income would have resulted in a more than proportionate increase in the demand for tourism-based services, resulting in a significant increase in its equilibrium quantity. This accounts for the increase in volume of tourism-based services.
- The Singapore Tourism Board and its industry partners also have engaged in marketing efforts to promote tourism in the country, such as through various campaigns and by tapping on online platforms. This could have resulted in a change in **taste and preference** in favour of tourism in Singapore. This again will result in an increase in demand.
- Entrance of budget airlines into the air travel market increases the supply of air travel, reducing the price of air travel. As air travel and tourism-based services are close complements, the demand for tourism-based services is highly negatively cross elastic in relation to price of air travel. **Cross elasticity of demand** measures the responsiveness of demand of one good to a change in price of another good, ceteris paribus. A lower price of air travel will increase the quantity demanded of it and hence demand for tourism-based services would increase by more than proportionately.
- As demand increases, the concept of **price elasticity of supply** can be applied. Price elasticity of supply measures the responsiveness of quantity supplied of a good to a change in its price, ceteris paribus. Supply of tourism-based services is relatively price elastic given the availability of spare capacity. There has been an expansion in the tourism industry over the years with creation of more tourist spots. Given the increase in demand due to above-mentioned factors, the demand curve shifts from Dd_0 to Dd_1 as shown in Fig. 1. Price would increase, causing a more than proportionate increase in quantity supplied of tourism services from Q_0 to Q_1 . This accounts for the reported change in volume of the tourism-based services.

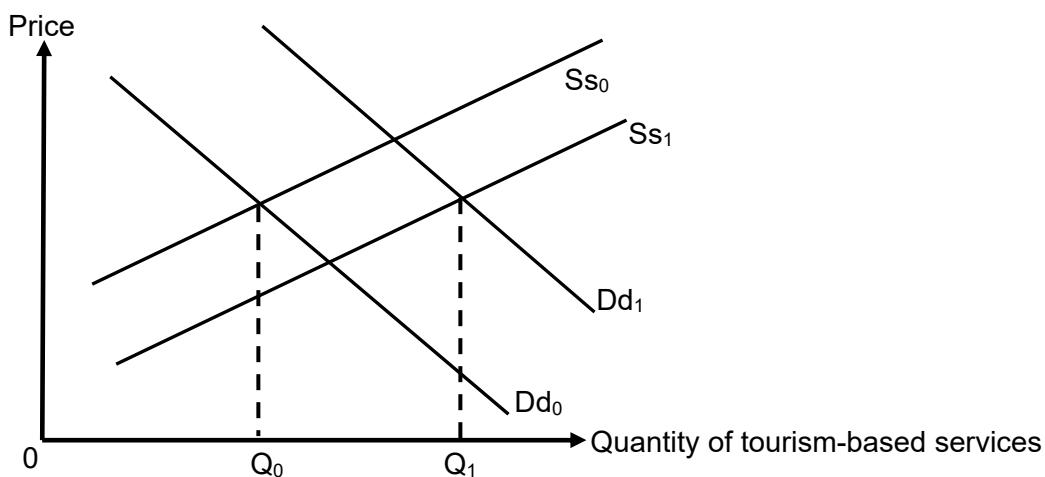


❖ **Supply factors:**

- There has also been many **government initiatives** to support competitiveness and innovation in the industry. For instance, the Singapore Tourism Board provides grants to support companies in areas of capability development, event development and product development. This could reduce the cost of production incurred by the firms, increasing supply of tourism-based industries.
- **Technological advancement** also enables firms to adopt more automation in provision of tourism-based services, such as the use of self-service kiosks. With the use of technology, output per unit of input increases, reducing cost per unit of output. This increases supply of tourism-based services.
- As supply increases, the concept of **price elasticity of demand** can be applied. Price elasticity of demand measures the responsiveness of quantity demanded of a good to a change in its price, ceteris paribus. Demand for tourism-based services in Singapore is price elastic due to availability of substitutes such as tourism-based services in other countries. Given the increase in supply due to the factors mentioned earlier, the supply curve shifts from Ss_0 to Ss_1 as shown in Fig. 2 below. The reduction in price due to the increase in supply will result in a more than proportionate increase in quantity demanded of tourism-based services from Q_0 to Q_1 . This accounts for the reported change in volume of the tourism-based services.



- Both the increase in demand and supply will result in an increase in the quantity of tourism-based services as shown below from Q_0 to Q_1 , hence the increase in the volume of tourism-based services.



- ❖ **EV:** Demand-side factors, particularly the global economic recovery, is likely to be the most significant factor contributing to the increase in volume of tourism in Singapore. The economic recovery was stronger than expected, hence income increases to a large extent, amplifying the increase in demand. In addition, in recent years, Singapore has developed various high-end tourism experiences such as the Gardens by the Bay, the Integrated Resorts and Universal Studios. As these services appear more luxurious, the YED value is much greater than one, causing a more significant increase in demand due to the increase in income. Supply factors mentioned earlier are likely to be less significant as their effects tend to be gradual in nature, and unlikely to cause the significant rise in volume of tourism-based services.

Knowledge, Application/Understanding and Analysis		
L3	For an answer that applies thorough economic analysis, with consideration of context, in accounting for the increase in the volume of the tourism-based services.	15-20
L2	For an answer that applies some economic analysis in accounting for the increase in volume of the tourism-based services.	9-14
L1	For an answer that shows knowledge of factors that might account for the increase in volume of the tourism-based services.	1-8

E3	For an answer that uses analysis to support an evaluative conclusion on the most significant factor that accounts for the increase in the volume of the tourism-based services.	4-5
E2	For an answer that makes some attempt at evaluation or a conclusion about the most significant factor that accounts for the increase in volume of the tourism-based services.	2-3
E1	For an answer that gives an unsupported evaluative statement.	1

Essay 2

Ten years ago, it seemed like Walmart had monopoly power when it came to retail. Today, Walmart has been displaced by an online retailer, Amazon. Walmart has had to deal with risks and uncertainty like the trend towards e-commerce and slower economic growth while trying to compete.

(a) Explain the factors that a firm considers in deciding whether to be larger. [10]

Factor	Elaboration
Constraints	1. Need to consider how constraints may affect the willingness or ability to grow. For instance, government policy may prevent firms from growing (prevent merger) or the amount of financial capital or loans that firms can get access to will also determine if a firm can fund expansion.
Advantages (Benefits)	<p><u>Revenue advantages</u></p> <ul style="list-style-type: none"> 1. Higher market share may mean that demand becomes more price inelastic → due to lower availability of substitutes → firms can now choose to increase prices to increase revenue rather than lower prices → more sustainable method to increase profits, ceteris paribus. 2. By becoming larger, firms can also gain more price setting ability to deter entry and increase market share by engaging in predatory pricing → can increase profits in the long run 3. There is still untapped demand in market → can easily increase demand for firm's product → by becoming larger, TR can increase. <p><u>Cost advantages</u></p> <ul style="list-style-type: none"> 4. Available internal economies of scale that firms can tap on as they grow large, e.g. marketing economies of scale where firms can purchase inputs (raw materials) in bulk and bargain for discounts and lower unit prices from suppliers → lower costs and hence, ceteris paribus, increase profits.
Disadvantages (Costs)	<ul style="list-style-type: none"> 1. Economic growth is slowing → Higher business risks and uncertainty → vertical integration may provide higher risks due to more inflexible cost structure → lower growth may lead to fall in demand and TR but TC is now higher and more difficult to lower → lower profits 2. Growing larger may result in the onset of diseconomies of scale → higher unit costs → may lead to lower profits
Other possible factors:	<p>Considering different perspectives: Situation in the economy → falling demand due to slowing growth → may then choose to diversify into other product markets (i.e. inferior goods)</p> <p>Perspective of rival firms and rival's action in response to the firm growing, i.e. unsustainable price wars with uncertain effects.</p>

Knowledge, Application/Understanding and Analysis		
L3	For a well-developed answer with at least three factors and includes both revenue and cost advantages/disadvantages. Consideration of factors should link to how profits enjoyed by the firm is affected unless factor to consider is an alternative objective of the firm. Good use of examples to illustrate the effects on revenue/costs.	8 – 10
L2	For an underdeveloped answer that consider at least two factors on revenue and/or cost advantages/disadvantages.	5 – 7
L1	For an answer that lacks scope and depth, or is a mere listing of points. There may be multiple major conceptual errors.	1 – 4

(b) Discuss whether the determination of Walmart's decisions and strategies are more dependent on competitors' actions or business risks and uncertainty. [15]

Dependent on...	Elaboration
Competitors' actions - Pricing strategies	<p>(affects Walmart's pricing and output, shutdown decision) Walmart is likely to operate in a competitive oligopolistic market structure where there is a high degree of mutual interdependence and rival consciousness.</p> <p>If rivals (such as Amazon) lower prices, Walmart will also respond with lower prices of similar or larger magnitude to maintain its market share and profit levels.</p> <p>If rivals lower prices to the point where it is below Walmart's AVC, it will choose to shut down.</p>
- Non-pricing strategies	<p>(affects Walmart's pricing and non-pricing strategies) Trend towards e-commerce → Walmart will also innovate and product differentiate by offering an online platform. Furthermore, as a large incumbent firm, Walmart may even choose to merge with or acquire new online e-commerce start-ups to expand its operation.</p> <p>Advertising and promotion campaigns during festive seasons → Walmart will offer similar promotions i.e. express shipping/free delivery or extensive membership programmes and benefits → Maintain market share and supernormal profits</p>
Business risks and uncertainty - Uncertainty in revenue	<p>(affects Walmart's growth decisions and non-pricing strategies) Slowing economic growth → Walmart may recognise the volatility in economic conditions and offer a larger variety of goods and diversify e.g. horizontal integration, to establish more revenue streams. Alternatively, in light of the slowing growth, Walmart may also offer own label products which may be perceived as inferior. Inferior goods will enjoy a rise in demand during economic uncertainty and lead to higher revenue and profits for Walmart.</p> <p>If PED is uncertain, Walmart may use a combination of price and non-pricing strategies to make predicted changes in revenue more certain. E.g. Advertising and promotion campaigns to alter tastes and preferences to make demand price inelastic before raising prices or vice versa.</p>
- Uncertainty in costs	<p>(affects Walmart's growth decisions and non-pricing strategies) Walmart may diversify into factor markets (vertical integration) to have more certainty in costs of production.</p> <p>Walmart may even invest in new technology to tackle potentially rising costs but do so by procuring R&D outcomes rather than embarking on their own research projects. For instance, Walmart</p>

	may improve efficiency by using self-checkout machines developed by other firms and not create their own. Walmart may also leverage established e-commerce payment platforms (i.e. paypal) rather than create their own payment systems. This may lead to lower costs for Walmart.
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More or less dependent on competitors' actions or business risks and uncertainty depends on...	
Time period	<p>Business risks and uncertainty may become less significant over time as Walmart can gather more information. Thus, this may be important in the short run but in the long run, Walmart's actions are more likely to be dependent on actions of its competitors.</p> <p>In the long run, if more firms enter the market and Walmart loses its market share, the market structure might transform into a monopolistically competitive one where there is a significantly lower degree of mutual interdependence. In this scenario, the decisions and strategies of Walmart would be more affected by business risks and uncertainty rather than actions of its many rivals.</p>
Situation in the economy (actions by other economic agents, i.e. government)	<p>If the government implements policies to create a favourable business environment, the effectiveness of the policies may determine whether Walmart is still concerned about business risks and uncertainty. If the policies are effective, Walmart will then be more concerned about the actions of its rivals.</p> <p>Furthermore, rivals in the market are also simultaneously affected by events affecting Walmart. Hence, Walmart may be more concerned about how rivals are reacting to the events and the indirect effects on their profits, rather than how they may be directly affected.</p>

Knowledge, Application/Understanding and Analysis		
L3	For a well-developed, well-balanced answer with at least three points of argument. Scope of points should be demonstrated in terms of both revenue and cost considerations as well as different decisions and strategies. Arguments should be contextualised to the given market.	8 – 10
L2	For an underdeveloped, balanced answer that consider at least one argument each for how competitor's action and business risks and uncertainty affects a firm's decision and strategy.	5 – 7
L1	For an answer that lacks scope and depth. There may be multiple conceptual errors.	1 – 4
E3	For an answer that arrives at an analytically well-reasoned judgement	4 – 5
E2	For an answer that makes some attempt at a judgement	2 – 3
E1	For an answer that gives an unsupported statement	1

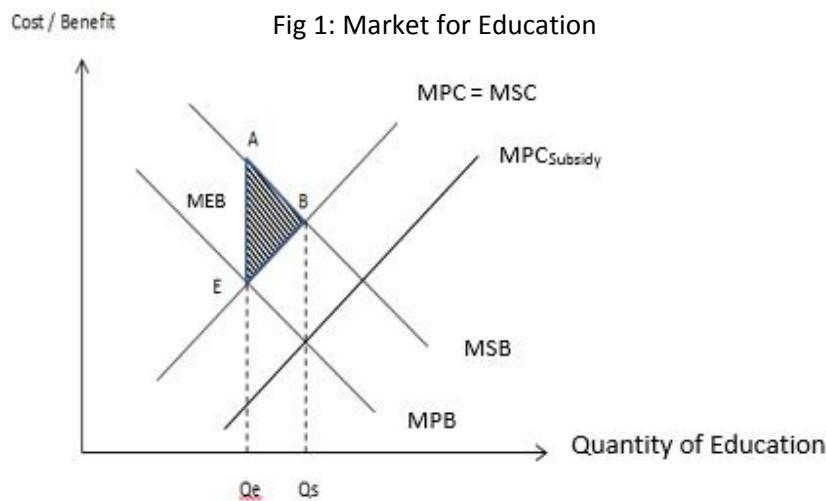
Essay 3

Governments typically intervene in the market for education in several ways.

Explain why government intervention is needed in the market for education, and discuss whether such intervention will help a government meet its microeconomic objectives. [25]

Government intervention is needed in the market for education as it is considered a merit good. Merit goods are deemed socially desirable by the government but under-consumed due to the presence of positive externality and imperfect information, leading to inefficient allocation of resources which is one of the government's microeconomic objectives. In addition, government intervention is needed as there may be inequitable distribution of resources in the market for education.

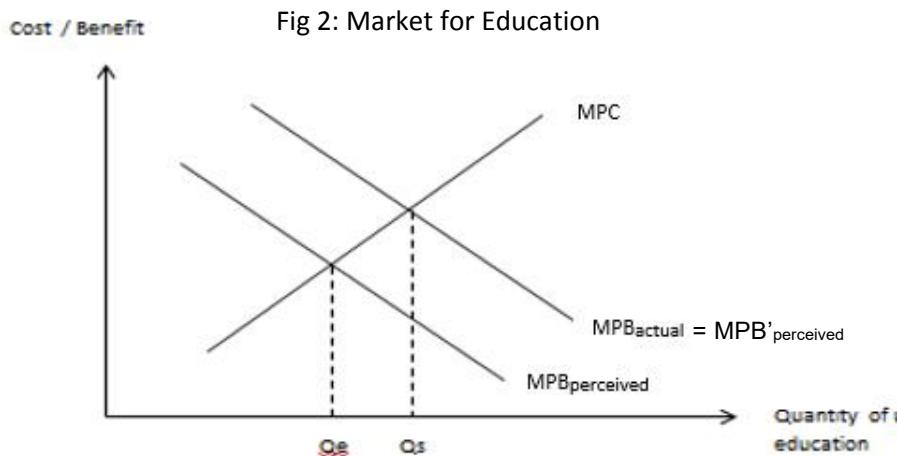
The private costs of education include tuition fees and the opportunity cost of not earning income from working while the private benefits include the gain of knowledge, better employment opportunities and potential higher wages in future from a higher level of education. In addition, education exhibits positive externalities from consumption such as the transfer of knowledge and skills to co-workers which can then help to increase their productivity and possibly income too. The employers could also profit from the increased productivity due to the more educated and skilled labour. This causes social benefits to be higher than private benefits and is illustrated by the divergence between MSB and MPB in the diagram. In deciding how much education to consume, the rational and self-interested consumer will not consider the positive externalities and only weigh his marginal private cost (MPC) against the marginal private benefit (MPB) and consume to the point where $MPC = MPB$ at Q_e . However, the socially optimal level of consumption is where marginal social cost (MSC) = marginal social benefit (MSB) at Q_s .



There is thus under-consumption of education by the amount $Q_e - Q_s$. At Q_e , MSB is greater than MSC. Society values an additional unit of education more than what it would cost society to consume it and there is deadweight loss by the area ABE. Society could be made better off if consumption of education were increased to the socially optimal level at Q_s .

Besides the presence of positive externality, there is also imperfect information. Consumers under-estimate future returns on higher education due to incomplete knowledge about the full longer-term benefits from education. Knowledge of private benefits is an ongoing learning process, and it is especially difficult to realise the long term gains from education at

an early stage. Moreover, calculating future earnings is usually based on past data and may require technical knowledge that is complex. This causes the actual private benefits to be higher than the perceived private benefits and is illustrated by the divergence between MPB_{actual} and $MPB_{perceived}$ in Fig 2. Again, in deciding how much education to consume, the rational and self-interested consumer will consume to the point where $MPC = MPB_{perceived}$ at Q_e . However, the optimal level of consumption is where $MPC = MPB_{actual}$ at Q_s . There is thus under-consumption of education by the amount $Q_e Q_s$. At Q_e , MPB is greater than MPC , resulting again in deadweight loss.



Furthermore, there may be inequitable allocation of resources in the market for education. Since the free market responds to “dollar votes”, those with higher incomes are likely to determine which goods and services will be produced, as resources are allocated in order to satisfy the consumers’ effective demand (i.e. both willingness and ability to buy). In this case, resources would inevitably be channelled to the production of education demanded by consumers with higher income. Education may thus be priced out of reach of the lower income groups due to the lack of ability to pay. In other words, those who are unable to afford education may not get a chance to attend school.

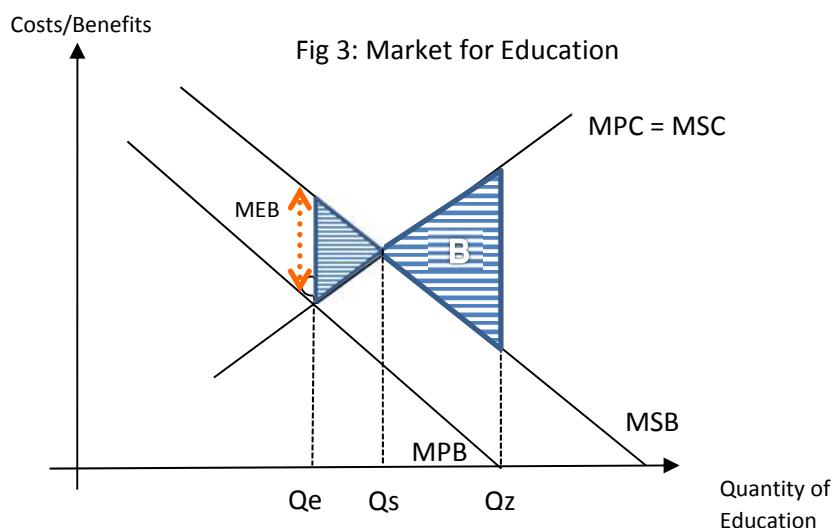
From a socio-political viewpoint, it is extremely important to achieve an equitable distribution of income in the economy as it improves the non-material standard of living of the country. As education is perceived to be a key instrument of achieving this distributive function in the long run, governments try to ensure that it remains affordable to the poorer sections of the economy. Typically the governments subsidise education in order to let it enable redistribute resources in the long run, expecting that the poor would get richer empowered by the knowledge achieved through education.

To better achieve the microeconomic objectives of efficiency and equity, governments typically intervene in the market for education in several ways. First, governments can provide a subsidy equal to the marginal external benefit (MEB) at Q_s , lowering the cost of education, as illustrated by a rightward shift of the MPC curve from MPC to $MPC_{Subsidy}$. The subsidy causes consumers to take into consideration the positive externality and will consume where $MPB = MPC_{Subsidy}$. This allows consumption to then be at the socially optimal level, Q_s , eliminating the deadweight loss previously due to under-consumption. One example of such an intervention is the government’s yearly contribution to students’ Edusave accounts which they can use to pay for their school fees or the Financial Assistance Scheme

where school fees and miscellaneous fees for students from lower-income households are waived and textbooks are provided free by the government.

Such a subsidy not only helps the government to meet the microeconomic objective of efficiency but also allows the government to achieve a more equitable distribution of resources in the economy. This is because subsidies make education more affordable, thus children from low income families are better able to gain access to it. If subsidies were not provided, children from lower income households may not receive education and are employed in lower-paying jobs which do not require much expertise while those from high-income families receive education and subsequently are able to land better paying jobs due to their higher level of skills and knowledge. The income gap between the rich and the poor would then likely widen over time, worsening inequity.

However, it may be difficult to provide the right amount of subsidies as there may not be sufficient information to accurately assess the value of the positive externality. If the subsidy provided is too little, the market failure will only be partially corrected while over-subsidising may instead result in greater deadweight loss. For example, if the amount of positive externality is not significant but governments fully subsidise education such that it is provided free at Q_z , it will cause the area of deadweight loss to be larger at B as compared to the original area A as shown in Fig 3.



Moreover, providing subsidies to consumers may put a strain on the government's budget or it may require resources to be diverted from other areas, incurring opportunity cost.

To tackle the other cause of market failure, that is imperfect information, the government can provide information to better help consumers understand the true benefits of education. More information such as the average starting pay and the qualifications required for various jobs can be provided, for example, through online portals like mycareersfuture.sg. With more information, the consumers will be more aware of the actual private benefits from education, illustrated by the rightward shift of the MPB curve from $MPB_{perceived}$ to MPB_{actual} in Fig 2. Consumers will then maximise their utility by consuming where $MPB_{actual} = MPB$ and this is where Q_s is, therefore reaching the optimal level of consumption.

Provision of information merely provides market participants with better information but does not artificially distort the workings of the free market. This is favourable, especially

from the perspective of proponents of the free market. However, the outcome is uncertain. This is because people may not even bother to access the information in the first place and even if they do, they may already have a pre-existing mindset on the benefits of education and the information provided may still not change their views. If so, the intervention will not help the government meet its microeconomic objective of efficiency.

Another common way for the government to intervene is through rules and regulations. For example, under the Compulsory Education Act in Singapore, it is compulsory for children born after 1 January 1996 to receive a minimum of six years of primary education. A government agency checks for compliance and parents who do not comply with the legislation are fined. This ensures that consumption of education is near, if not, at the socially optimal level.

The advantage of such an intervention is that it is simple and clear to follow and is relatively straightforward to administer. However, for it to be effective, there must be inspections and the penalty must be sufficiently harsh to have a deterrent effect. In large countries, enforcement measures can be costly. Moreover, rules and regulations may be more difficult to change when marginal external costs or benefits change given the need for legislative approval. Thus, consumption may not be at the socially optimal level when external benefits change.

In conclusion, whether such intervention will help a government meet its microeconomic objectives depends on various factors such as the amount of information the government has and the budget position. In developing countries, data collection is not as advanced or comprehensive and governments may not be able to accurately determine the amount of subsidies to be given, thus deadweight loss or market failure still remains.

Also, if a country has a budget deficit or public debt, it may be difficult for the government to be able to provide the subsidies that are necessary for the socially optimal level of consumption to be reached. If there are more urgent issues that the economy is facing, the government may decide to allocate more resources in those areas rather than subsidising education, causing both the microeconomic objectives not to be met. Nevertheless, it is more likely that intervention in the market for education can help to reduce the amount of inequity and allocative inefficiency though they may not be completely eliminated.

Knowledge, Application/Understanding and Analysis		
L3	For an answer that gives a detailed and analytic explanation of why government intervention is needed in the market for education and whether government intervention will help to meet its microeconomic objectives.	15-20
L2	For an answer that gives an underdeveloped descriptive explanation of why government intervention is needed in the market for education and whether government intervention will help to meet its microeconomic objectives.	9-14
L1	For an answer that shows some knowledge of the reasons why government intervention is needed in the market for education and whether government intervention will help to meet its microeconomic objectives. Contains conceptual errors.	1-8
E3	For an answer that arrives at an analytically well-reasoned judgement about whether government intervention will help to meet its microeconomic objectives	4 – 5
E2	For an answer that makes some attempt at a judgement about whether government intervention will help to meet its microeconomic objectives	2 – 3
E1	For an answer that gives an unsupported statement about whether government intervention will help to meet its microeconomic objectives	1

Essay 4

The central bank of the US has raised interest rates from 0.1% in 2015 to 0.7% in 2016.

Source: The Federal Reserve, 2016

Explain the internal and external impacts of the increase in interest rates by the US central bank on the Singapore economy and discuss the view that fiscal policy is the best policy for Singapore to address the possible adverse impacts. [25]

A rise in interest rates would increase the cost of borrowing and the opportunity cost of consumption as returns from savings are higher. Consumers would thus prefer to save and reduce their consumption expenditure. Firms would find that with the higher cost of borrowing and with the rate of returns remaining constant, the number of profitable projects would decrease and thus lower their investment expenditure. With a fall in both autonomous consumption and investment expenditure, there will be a fall in aggregate demand, causing a multiplied decrease in real national income in the US via the multiplier effect.

The fall in the US real national income means that there is a decrease in purchasing power and a consequent decrease in import demand. As US is Singapore's main trading partner, the decrease in demand for Singapore's exports from the US will cause a substantial decrease in our export revenue. Assuming that import expenditure of Singapore remains unchanged, this will result in a decrease in net exports, decreasing aggregate demand (AD). There will thus be a multiplied decrease in Singapore's real national income. The decrease in production also results in a decrease in the derived demand for labour, leading to a rise in demand deficient unemployment.

Also the fall in national income in the US may lead to a fall in expectations of future growth. As the US is the largest economy in the world, there might be a fall in FDI to Singapore as foreign investors are likely to invest in Singapore to produce goods and services for overseas markets. The fall in FDI might result in a fall in I, and the subsequent fall in AD, fall in real national income and increase in unemployment. Also, a fall in I can lead to a fall in productivity and thus productive capacity, hindering potential growth in Singapore.

The rise in interest rates could also attract short term investments into the US. There is thus an inflow of hot money into US as investors seek expect higher rates of returns. This will increase the demand for US currency, causing an appreciation of the US dollar (US\$). In Singapore, however, there may be hot money outflow if interest rates are relatively lower. This would cause a worsening of the capital and financial account in Singapore. Coupled with the decrease in net exports that worsens the current account, the BOP position of Singapore would worsen in the short run.

In addition, with an increase in short term capital outflow from Singapore, the supply of the Singapore dollar (SGD) would increase. This will result in a depreciation of the SGD, increasing the domestic price of imported raw materials and thus cost of production, leading to a fall in the SRAS and a rise in imported inflation.

In summary, the adverse impacts of an increase in US's interest rates could be a fall in (X-M) and I, causing AD to fall and Singapore's real national income to fall by a multiplied amount. There could also be an increase in unemployment as well as an increase in imported inflation.

To address the impact of a fall in net exports, Singapore can engage in expansionary fiscal policy to stimulate economic activity and reduce demand-deficient unemployment. For example, the Singapore government can bring forward the building of economic and social infrastructure. With an increase in government expenditure (G), AD will increase. Additionally, consumption (C) and investment expenditure (I) can be boosted through the reduction of personal income tax or corporate tax rates. When income tax rates are reduced, households would have more disposable income to increase their consumption expenditure. When corporate tax rates are reduced, firms would enjoy higher after-tax profits and be more willing and able to invest on new capital goods. With the increase in C, I and G, the fall in (X-M) and I due to the increase in interest rates could be offset, thus alleviating the adverse impacts on real national income and employment.

Expansionary fiscal policy can work relatively quickly in boosting growth and employment. Furthermore, Singapore is unlikely to suffer from the crowding out effect as the Singapore government has adopted a prudent approach to its fiscal policy, consistently keeping the budget balanced, achieving modest budget surpluses in normal years, and building up reserves over time.

However, there are limitations to the use of fiscal policy. The size of the multiplier is likely to be small. This is because Singapore lacks natural resources and is heavily dependent on imported raw materials, intermediate goods and final products. As such, its marginal propensity to import is high. In addition, Singapore has compulsory savings in the form of the Central Provident Fund and the marginal propensity to save is also high. Since there are large leakages out of the circular flow of income, the impact of fiscal policy on real national income is smaller.

To address the adverse impact of imported inflation, exchange rate policy may be a better policy than fiscal policy. A gradual and modest appreciation of the SGD will directly help to lower the domestic price of imported raw materials and reduce the cost of production. This increases the SRAS and addresses the root cause of the problem.

However, a stronger Singapore dollar would result in an increase in the foreign price of exports and a fall in the domestic price of imports. In the long run, firms are no longer bounded by contracts and are able to switch to cheaper alternatives. The Marshall-Lerner condition is thus likely to be satisfied, and an appreciation will lead to a fall in net exports which will aggravate the problem of a decline in exports. Therefore, there is a need for Singapore to also adopt supply side policies to boost its export competitiveness.

As a long term policy, supply side policies are better than fiscal and monetary policies as it helps to enhance the price and non-price competitiveness of exports and also increase the productive capacity of Singapore. This can help Singapore to achieve sustained, non-inflationary growth. Examples include tax credits for R&D and subsidies for upskilling. In Singapore, the Workforce Development Agency pays up to 90% of skills upgrading course fees. Such programmes increase the level of skill mastery, increasing the productivity and quality of labour. The fall in unit cost of labour will cause a fall in the price of exports, making exports more price competitive. Also, R&D subsidies can create more incentives for firms to engage in innovation, improving the non-price competitiveness of Singapore's exports, thereby increasing the demand for Singapore's exports and increasing net exports.

However, supply side policies have limitations too. Supply-side policies tend to require a longer time to take effect and the outcomes are uncertain. For example, workers need to embrace the concept of lifelong learning before they are willing to embark on training programmes to enhance their employability.

In conclusion, fiscal policy may be the best policy in terms of reducing the adverse impact of a fall in real national income and an increase in unemployment but not the best in ensuring price stability. Fiscal policy as a demand-management policy and monetary policy can be adopted in the short run to have a more immediate impact on AD and/or SRAS but in the long run, supply side policies are still needed. There is thus no single best policy to address the various possible adverse impacts brought about by the increase in US interest rates. According to Tinbergen's rule, the number of policies should be at least equal to the number of economic objectives. Therefore, both demand management and supply-side policies should be adopted to complement one another in achieving the different macroeconomic objectives.

However, we should also note that the increase in interest rates in the US may not affect Singapore much as it is an interest-rate taker. Domestic interest rates in Singapore will largely follow US interest rates and there is thus not much difference between interest rates in Singapore and US to cause a change in capital flow or exchange rates. Also, the interest rate hike in the US is likely to be due to the US central bank preventing demand pull inflation in US due to stronger economic growth. Thus the hike in the interest rates may not even have adverse impacts on the Singapore economy.

Regardless, as a small country with few natural resources, it is still critical that Singapore continuously innovates to maintain a competitive edge over other countries and sustain its economic growth regardless of changes occurring in other countries.

Note: Students who explained that the adverse impact is a fall in (X-M) but no change in exchange rate can suggest reducing the rate of appreciation or zero appreciation to address the adverse impacts of a rise in US interest rates.

Knowledge, Application/Understanding and Analysis		
L3	A comprehensive and detailed answer that provides an explanation on the internal and external impacts on the Singapore economy with a rise in US interest rates. Provides a balanced discussion, using appropriate tools of analysis and diagrams to discuss a range of policies that address the adverse impacts on the SG economy.	15-20

L2	An answer that provides a balanced but under-developed discussion on the internal and external impacts on the Singapore economy with a rise in US interest rates. A range of appropriate policies to address the adverse impacts on the SG economy are discussed.	9-14
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L1	An answer that is mostly descriptive, with some inaccuracies and is not in the context of US and Singapore.	1-8
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E3	An answer that arrives at an analytically well-reasoned judgement on whether fiscal policy is the best policy to address the adverse impacts on the SG economy.	4 – 5
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E2	Some attempt at a judgement on whether fiscal policy is the best policy to address the adverse impacts on the SG economy.	2 – 3
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E1	For an unexplained judgement, or one that is not supported by economic analysis.	1
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Essay 5

China has long been widely touted as a nation of savers. Credit Suisse pegs China's savings rate at 32% of household income.

Source: Nikkei Asian Review, 2018

(a) Explain the factors that cause household savings to be high. [10]

Savings is the part of disposable income that is not spent. Higher household savings will cause expenditure on consumption to fall, thus reducing AD. Factors affecting savings are largely similar to factors affecting the level of consumption.

Autonomous savings

Interest rates

Interest rate refers to the rate at which a deposit (i.e. savings) with the bank increases over time. Interest is regarded as the reward for savings. A high interest rate will allow households to earn more interest from savings, i.e. the reward for savings increases. This will incentivise people to save, causing household savings to be high.

Expectations

Households' expectations about the economic outlook play a crucial role in their decision to save. If households are expecting an economic downturn in future, they are likely to increase the level of savings since savings provide a precautionary buffer against possible job losses or fall in income levels in future. This would cause household savings to be high.

If households expect a lower or negative rate of inflation in future, they will save more now and postpone their consumption expenditure till prices are lower. This would also cause household savings to be high.

Preference of households

The level of savings can be dependent on the mindset and the lifestyles of households in the economy. Saving habits are influenced by factors such as culture, for e.g. Asians value thrift and responsibility and will seek to save more, especially to ensure that they have enough for retirement or to be able to leave assets to their children as a bequest. This would cause household savings to be high.

Government policies

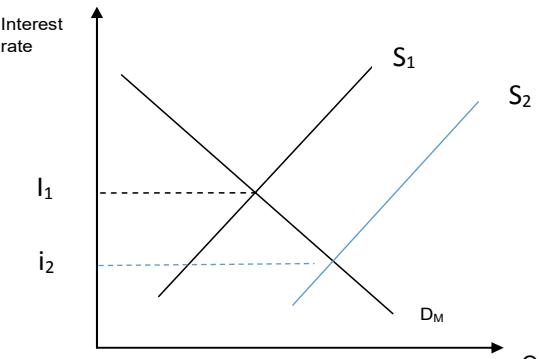
There are also government policies which affects the community's attitude in savings. For example, in Singapore, there is a national savings scheme whereby all working individuals have to make compulsory monthly contributions to the Central Provident Fund (CPF). CPF savings ensures that the individuals have sufficient savings for retirement as well as medical expenses. This compulsory aspect of savings has allowed Singapore to have one of the highest saving rates in the world.

Induced savings

Induced savings changes in response to changes in the level of national income and is positively related to it. When income levels are high, households are likely to be able to save a more of their income after consumption, thereby causing household savings to be high.

Knowledge, Application/Understanding and Analysis		
L3	For an answer that uses appropriate analysis to explain the various factors affecting savings rates	8 – 10
L2	A descriptive explanation of key factors affecting savings rates	5 – 7
L1	Knowledge of key factors affecting savings and/or unexplained/ answer contains some conceptual errors	1 – 4

(b) Discuss whether higher household savings rates are desirable for an economy. [15]

Introduction	
Undesirable	Desirable
Internal impact on Economic Growth, Employment and Price Stability	
<u>Assuming economy operating below full employment level:</u> <u>Short term impact:</u> <ul style="list-style-type: none"> Paradox of thrift: Increase in S causes C to fall → AD will fall and RNO will fall by multiplied amount → impedes economic growth or slows down economic recovery. Since firms produce less, derived demand for labour falls → increase in demand deficient unemployment For countries facing deflation like Japan, fall in AD will cause GPL to fall. If this causes consumers to further lower C due to expectations of lower prices, AD will continue to fall causing the economy to go on a deflationary spiral. <u>Less effective demand management policies:</u> <ul style="list-style-type: none"> Since APS is high, MPS may also be high, causing k to be relatively small. Therefore, impact of expansionary FP such as increase in G to stimulate real national income will be limited. 	<u>Assuming economy operating near or at full employment level:</u> <ul style="list-style-type: none"> Fall in AD can help to dampen demand pull inflation. <u>Long Term Impact:</u> <ul style="list-style-type: none"> Supply of loanable funds decreases from S_1 to S_2. This helps to keep interest rates low which leads to more investment.  <ul style="list-style-type: none"> In the short run, investment helps to increase real national income and actual growth. In the long run, investment leads to higher productivity and productive capacity, increasing LRAS and achieving potential growth. Overall, prices are kept stable and low rate of unemployment is attained.
External impact on Balance of Payments and Exchange rate	
Capital and financial account <ul style="list-style-type: none"> As supply of loanable funds increases, interest rates fall. This results in the outflow of hot money as the rate of returns is now lower. Capital and financial account worsens. 	Current account <ul style="list-style-type: none"> Consumers may reduce expenditure on imported goods, trade balance and thus current account improves, ceteris paribus.
Overall impact on BOP depends on the relative change in both accounts <ul style="list-style-type: none"> If there is a net currency outflow, the BOP position will deteriorate and the exchange rate will also depreciate. This may worsen the external stability of the economy. 	

Current Standard of living (SOL)	Future Standard of living (SOL)
<ul style="list-style-type: none"> • Current SOL refers to the amount of goods and services that individuals have available for current consumption. Lower consumption as a result of higher savings rates will worsen current material SOL. 	<ul style="list-style-type: none"> • Future SOL refers to the amount of goods and services available for future consumption. • Higher savings rate allows higher expenditure on investment which can help to increase the productive capacity of the economy. With an increase in the ability to produce more goods and services in future, consumption can increase by more in the future, improving future material SOL.
Evaluation	
<p>[Weigh] According to the Classical school of thought, savings is beneficial to help economies achieve growth and its other macroeconomic objectives. However, based on the Keynesian school of thought, savings will actually slow down economic growth. This is detrimental to countries especially in the globalised economy in recent years. As countries decouple and are less dependent on external sources for growth, they will need to stimulate domestic consumption and investment more.</p> <p>[Recommend] While high savings rate can bring about negative impacts, government may also implement policies to address the situation in the economy. Hence, the overall impact may not be undesirable, depending on the nature of the economy as well as its current situation.</p>	

Knowledge, Application/Understanding and Analysis		
L3	For an answer using analysis to give a clear analysis of the costs and benefits of higher household savings for an economy	8 – 10
L2	For an answer giving a largely descriptive explanation of the costs and benefits of higher household savings for an economy	5 – 7
L1	For an answer that shows knowledge of the costs and benefits of higher household savings. One-sided answer on either the costs or benefits. Largely unexplained knowledge of the impact of higher savings for an economy.	1 – 4
E3	For an answer that arrives at an analytical well-reasoned judgement	4 – 5
E2	For an answer that makes some attempt at a judgement	2 – 3
E1	For an answer that gives an unsupported statement	1

Essay 6

An economist stated ‘Globalisation affects all corners of the world, yet requires more government control, not less’.

(a) Explain how globalisation impacts a country’s balance of payments position. [10]

	Current Account	Capital and Financial Account
Increased trade flows	<ul style="list-style-type: none"> • Reduction of trade barriers → countries can specialise based on their area of comparative advantage, i.e. produce goods that they incur lower opportunity cost in → this enables them to charge lower prices → assuming $PED >1$, the lower prices will result in a more than proportionate increase in quantity demanded → higher export revenue (X) → improvement in g/s balance on the current account • Greater contestability → increased threat of potential competition from imported g/s → incentive for incumbent firms to innovate → improvement in price and non-price competitiveness <ul style="list-style-type: none"> ◦ Improvement in price competitiveness, with $PED >1$ as analysed earlier, will increase X → improvement in g/s balance on the current account ◦ Improvement in non-price competitiveness will increase the demand for exports → increase X → improvement in g/s balance on the current account • If higher demand for exports is not met by an increase in productive capacity in export-related industries → compete for increasingly scarce factors of production → rise in demand-pull inflation → worsen price competitiveness of exports in the longer term → may limit improvement in g/s balance on the current account • Access to cheaper imported raw materials → improve export competitiveness → improvement in the current account 	<ul style="list-style-type: none"> • Heightened growth potential with the larger export market → healthy business prospects → may attract FDI (long-term capital) inflow to capitalise on the opportunities → improvement of the capital and financial account
Increased labour flows	<ul style="list-style-type: none"> • Labour inflow from foreign countries to tap on work opportunities → migrant remittances of earnings back to home country → outflow in the secondary 	<ul style="list-style-type: none"> • Labour inflow → rise in SS of labour → lowers cost of production → attractive to FDI → improvement of the

	income balance on the current account → worsening of the current account	capital and financial account <ul style="list-style-type: none"> Labour outflow (i.e., brain drain) → risk being a disincentive to foreign firms to locate in the country → worsening of the capital and financial account
Increased capital flows	<ul style="list-style-type: none"> Repatriation of profits, interest and rent following capital outflow/inflow may improve/worsen the primary income balance on the current account 	<ul style="list-style-type: none"> Greater “hot money” flows → e.g., increase in interest rate in a country attracts short-term capital inflows → improve the capital and financial account Entry of foreign firms due to good economic outlook in a country → inflow of long-term capital (FDI) into the country → direct improvement of the capital and financial account

Knowledge, Application/Understanding and Analysis		
L3	For a <u>well-developed</u> answer with <u>at least three</u> impacts on <u>both</u> current and capital and financial accounts, and consideration of <u>all</u> features of globalisation (i.e., increased trade, labour and capital flows).	8 – 10
L2	For an <u>underdeveloped</u> answer that consider <u>at least two</u> impacts on <u>both</u> current and capital and financial accounts, and <u>some</u> consideration of the features of globalisation (i.e., increased trade, labour and capital flows).	5 – 7
L1	For an answer that lacks scope and depth, or is a mere listing of points. There may be multiple major conceptual errors.	1 – 4

(b) Discuss the view that the role of the Singapore government is more important with the rise of globalisation. [15]

Introduction:

- Government functions → allocative, stabilisation, distributive, and growth functions

P1: Yes, more important

- Government has a role to mitigate the negative effects of globalisation:
 - Stabilisation role
 - Issue: vulnerability to external shocks due to dependence on foreign markets OR risk of structural unemployment with changing CA
 - Appropriate policy: Singapore continually expands and diversifies its network of trading partners OR SkillsFuture to encourage workers to retrain and reskill
 - Distributive role
 - Issue: widening inequity between higher-skilled and lower-skilled workers, possibly due to changing CA (e.g., shift from low-end to high-end manufacturing) or relocation/offshoring of production processes
 - Appropriate policy: redistributive policies, e.g., progressive income tax structure, GST vouchers tiered by income level
 - Allocative role
 - Issue: generation of negative externalities, e.g., problem gambling with the establishment of Integrated Resorts by foreign companies
 - Appropriate policy: legislation/tax for Singaporeans, public education efforts
- Government has a role to further augment the positive effects of globalisation:
 - Growth role
 - Issue: benefits of globalisation, including higher growth prospects from an expanded (external) market, higher potential growth from FDI inflow
 - Appropriate policy: SG to sign more bilateral, regional, and multilateral FTAs, competitive corporate tax rates in SG

P2: No, not more important

- Globalisation may have taken over some of the roles that governments traditionally play
 - E.g., previously, governments need to regulate markets closely to ensure efficiency → these days, increased competition/contestability as a result of globalisation is enough to keep incumbents on their toes and incentivise innovation (e.g., entrance of foreign banks and telco players into SG) → higher efficiency, improved export competitiveness, sustained growth, etc → government intervention no longer needed
- Globalisation may have helped to overcome some inherent challenges that the SG government was trying to address
 - Tight labour market in SG → due to falling birth rates and aging population → may impact potential growth negatively → SG was trying to address through encouraging more births and raising retirement age → with globalisation,

- greater labour mobility across borders → rise in quantity and possible also quality of labour for SG → increase in SG's LRAS → less need for government to step in to manage
- Small domestic market in SG → globalisation has enabled SG firms to tap on the larger global export market + enabled FDI inflow to grow Singapore's productive capacity → actual (growth in AD) and potential growth (growth in LRAS) → less need for government to step in to stimulate growth
 - Self-correction of problems by the free market
 - E.g., slow growth → weak economic outlook for local households and firms → local households and firms may withhold spending → AD may fall → GPL fall → however, this may mean an improvement in export price competitiveness → with globalisation, more foreigners may purchase the cheaper SG exports → *ceteris paribus*, X and hence AD may rise → "automatic" correction of slow growth → no need for government intervention
 - Government intervention may cause more harm than good
 - E.g., protectionism (see below; can also be an EV point)
 - E.g., channelling resources to "combat" the effects of globalisation, when the resources could be better spent in other sectors

Conclusion/EV:

- Stand: Multiple functions for government → government's role has not been reduced → in fact, its role may be even more important/prominent than before
- Justify: Adapting to globalisation does not occur naturally → governments still need to be present to create conditions for successful integration with globalisation → e.g., need to create conditions for contestability to take place (e.g., granting more licences for foreign banks to operate in SG, granting of telco licence to Australian-based company TPG), need to help SMEs reach out globally (e.g., through Enterprise Singapore (formerly IE Singapore))
- A: Sometimes, by intervening, more harm than good is done
 - E.g., government may intervene in response to globalisation through erecting of trade barriers → briefly give an example of protectionism and negative consequences
- S: Importance of government intervention depends on the effects of globalisation
 - Where the effects of globalisation are mostly positive, it is less important for the government to intervene
 - If negative effects are more significant, the government will need to step in with mitigating measures

Note: There are many possible points of argument for this question, and the points given above are non-exhaustive. You also do not need all the above points to score the full range of marks.

Knowledge, Application/Understanding and Analysis		
L3	For a <u>well-developed, well-balanced</u> answer with <u>at least three</u> points of argument.	8 – 10
L2	For an <u>underdeveloped, balanced</u> answer that consider <u>at least two</u> points of argument.	5 – 7
L1	For an answer that lacks scope and depth. There may be multiple major conceptual errors.	1 – 4
E3	For an answer that arrives at an analytically well-reasoned judgement	4 – 5
E2	For an answer that makes some attempt at a judgement	2 – 3
E1	For an answer that gives an unsupported statement	1



Economics

Paper 1 Case Studies

9757/01

11 September 2018

2 hours 15 minutes

Additional Materials: Answer Paper

READ THESE INSTRUCTIONS FIRST

Write your name, civics group and question number on the work you hand in.

Write in dark blue or black pen on both sides of the paper.

Begin your answer to each question on a fresh sheet of paper.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** questions.

At the end of the examination, **fasten your answers to Question 1 and Question 2 separately.**

The number of marks is given in brackets [] at the end of each question or part question.

Please note that Paper 1 takes up 40% of the total score.

This document consists of 7 printed pages and 1 blank page

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Question 1: Prosperous Phosphorous

Table 1: World and regional growth in fertiliser demand, 2014 to 2018

Region	Nitrogen	Phosphate
World	1.4%	2.2%
Africa	3.2%	2.7%
Americas	1.6%	2.4%
Asia	1.3%	2.2%
Europe	1.1%	1.1%
Oceania	1.2%	1.2%

Source: *Food and Agriculture Organisation of the United Nations*, accessed 14.08.18

Extract 1: The essential element

The term phosphate rock is used to denote any rock with high phosphorus content. Some phosphate rock is used to make calcium phosphate nutritional supplements for animals. Pure phosphorus is used to make chemicals for use in industry. The most important use of phosphate rock, though, is in the production of phosphate fertilisers for agriculture. Virtually all common fertilisers comprise nitrogen, phosphorus and potassium, NPK for short.

Without phosphorus, we cannot produce food. As an essential nutrient in fertilisers for food production, phosphorus has no substitute. Phosphorus ensures soil fertility and high crop yields, supports farmer livelihoods and ultimately food security of the global population. Yet the world's farmers depend on phosphorus sourced from finite phosphate rock, which is becoming more scarce, expensive and is concentrated in only a few countries: Morocco alone controls three-quarters of the world's remaining high-quality phosphate reserves.

At the same time, inefficient use of phosphorus throughout the food systems is polluting our rivers and oceans causing toxic algal blooms.

Adapted from *Minerals Education Coalition & Phosphorus Futures*, accessed 20.06.18

Extract 2: What's shaping the future of phosphorus?

Numerous global trends have caused the demand for phosphorus to increase at an unsustainable rate. Especially in developing regions, rapid population growth has led to increased phosphorus demand, with the rate of NPK fertiliser increasing by over 600 percent from 1950 to 2000. In developed regions, on the other hand, the shift towards a diet of meat and cheese has also increased phosphorus demand, since meat and dairy contain a significant proportion of phosphorus. As a result, countries everywhere face rising demands for phosphorus, which has led to precarious markets.

In 2008, the price of phosphate fertiliser almost doubled because of increased demand for fertiliser (due to more meat consumption) and biofuels, and a short-term lack of availability of phosphate rock.

The U.S., which has 25 years of phosphate rock reserves left, imports a substantial amount of phosphate rock from Morocco, which controls up to 85 percent of the remaining phosphate rock reserves. Despite the prevalence of phosphorus on earth, only a small percentage of it can be mined because of physical, economic, energy or legal constraints.

Fellow associate at McGill School of Environment, Dr Elena Bennett is concerned that major phosphorus-producing countries could drive up its price if they wanted to.

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"One thing that worries me is the concentration of phosphorus in just a handful of countries," says Bennett. "OPEC has many more countries than those that currently produce the majority of phosphorus, and yet effectively controls the price of oil worldwide."

"If these suppliers decided to form an "OPEC for phosphorus", they could significantly and suddenly increase the price of food."

Adapted from *Mining Technology 2016* and *Earth Institute 2016*, accessed 24.06.18

Extract 3: Morocco's Office Cherifien des Phosphates (OCP) to build \$230 million fertiliser plant in India

Morocco's national phosphate company and the Indian firm Kribhco announced the construction of a new \$230 million fertiliser plant in Andhra Pradesh.

The 50/50 venture will be located in the city of Krishnapatnam and have the capacity to process up to 1.2 million tons of NPK fertiliser.

Indian Prime Minister Narendra Modi has been encouraging the "Made in India" movement, pushing for new employment opportunities in the manufacturing sector, since he came to power in 2014. The fertiliser sector is one of 25 identified by the Modi administration as exhibiting high potential for profitable growth in India.

"OCP has always been, and remains fully committed to contribute to India's agricultural development," Chairman Mostafa Terrab said in a statement announcing the venture. "As one of the major cooperatives in India, Kribhco is an excellent partner to develop a farmer-oriented agricultural input joint-venture. This partnership is designed to be truly a win-win project for all the stakeholders involved but foremost for India's agriculture and particularly for Indian farmers."

Adapted from *Morocco World News*, accessed 24.06.18

Extract 4: The shortage of phosphorous resource

One area that should be prioritised in reducing phosphorus is the smarter use of fertiliser. In most cases, farmers are unaware of how much fertiliser they need. For good reason - the amount of fertiliser a farmer may need is highly dependent on environmental conditions such as soil, temperature, and weather patterns. As a result, many farmers in developing countries are not able to accurately gauge their fertiliser requirements, leading to much waste. Thus, a valuable resource is wasted and becomes an environmental risk to water supplies, just because some people were never educated.

To combat this lack of information, the United Nations Food and Agricultural Organisation is putting together a task force to work together with local and state governments. It hopes to provide accessible information to farmers, emphasising ideals of conservation and long-term sustainability of phosphorus. This task force is not unprecedented and draws inspiration from past successful initiatives. The University of Wisconsin, in concert with the Wisconsin government, put together a program called the Wisconsin Phosphorus Index, which helps farmers accurately predict how much phosphorus that they will need. By promoting past sustainable practices that have a track record of success, organisations like the United Nations will hopefully be able to increase awareness amongst local communities.

Another area that can be examined to increase phosphorus supply is recycling waste. In the past, farmers were able to sustain the quality of their soil largely through household waste. Even though animal manure is still widely used, human waste is also a valuable source of phosphorus. Instead of disposing of it as sewage, human waste has potential as an alternative fertiliser. Moreover, many countries across the world are undergoing intensive research to find innovative ways to efficiently recycle waste. It is important that the international scientific community communicates their findings to one another to promote the best long-term phosphorus recycling methods. Additionally, areas that might not be able to afford such advanced levels of technology need to receive assistance from

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non-governmental organisations (NGOs) and the United Nations. Since some of these recycling procedures are difficult to keep up without high development levels, countries must have access to at least rudimentary recycling processes. In this way, countries will be able to extend their current supplies of phosphorus.

While there are numerous measures that can be implemented in order to promote more long-term phosphorus supply sustainability, they cannot be effective without cultural changes as well. Meat and dairy, for example, take up immense supplies of phosphorus, and yet people are consuming these products at unprecedented levels. Therefore, it is increasingly necessary to promote a plant-based diet to reduce the amount of phosphorus consumption.

Adapted from *Harvard International Review 2016*, accessed 16.06.18

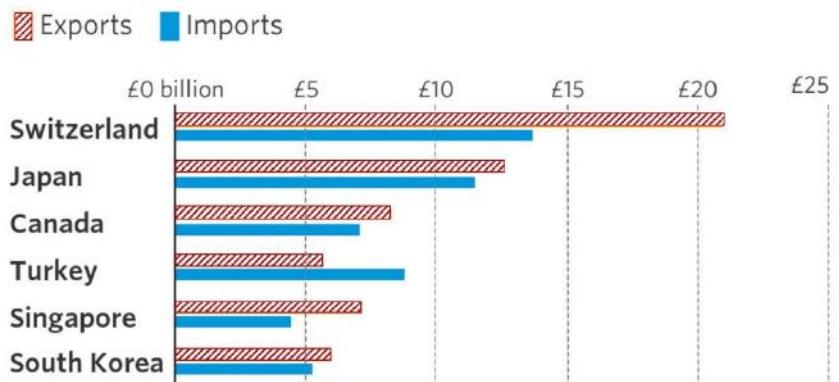
Questions

- (a) Compare the fertiliser demand growth rates for nitrogen and phosphate between Africa and the Americas. [2]
- (b) State how the following goods are related [1]
 - (i) phosphorous and meat
 - (ii) meat and biofuels
- (c) Explain **two** possible conditions that will encourage the successful formation of "an OPEC for phosphorous". [4]
- (d) Using a diagram, explain how a price floor on agricultural crops could theoretically improve the living standards of Indian farmers, if implemented as part of the farmer-oriented initiative. [3]
- (e) Identify a normative statement in Extract 4. [1]
- (f) Discuss whether the Indian government had sufficient information to make a rational decision to develop its phosphorous industry. [8]
- (g) Assess the relative effectiveness of different policy approaches in response to the phosphorous shortage issue. [10]

[Total: 30]

Question 2: Weathering the Wind and Rain of Trade

Figure 1: UK trade balance with trading partners, 2016



Source: *Office of National Statistics*, accessed 22.06.18

Extract 5: Will the wave of protectionism make international trade great again?

Unquestionably, international trade flows have exploded throughout the century. The main objective for countries is to maintain a favourable trade balance. Most countries take the position to export as much as possible and import as least as possible; unless the lower priced imports are directly consumed for the exported products. Despite the arguments in favour of free trade, some of the world's wealthiest and most influential economies are moving away from the long-term trend of trade openness. Protectionism is in.

An example is Brexit, where UK voted to leave the European Union (EU), a "single market" allowing goods, finance and people to move around freely within. It is not only Britain that is showing signs of isolationism. US president Donald Trump has been very vocal with his protectionist promises, against the background of US total trade deficit that is projected to grow to about \$566 billion in 2017, with the goods deficit with China alone contributing nearly half of US total trade deficit. He argues that China is stealing American jobs and commercial secrets, while breaking the rules of international trade by manipulating its currency and subsidizing their local manufacturers and exporters.

A vote against free trade is a problem for Asia – and especially for Singapore. For much of Asia, trade has been a key driver of economic growth. For example, in 2014, trade totalled 351% of Singapore's total economic output, much more than compare US trade totalling 30% of its GDP. If there are higher trade tariffs on Asia, it would result in higher prices for goods produced in Asia and hurt export revenue. At the World Economic Forum this year, Chinese President Xi Jinping was applauded when he said, "We must remain committed to free trade. No one will emerge as a winner in a trade war. Pursuing protectionism is just like locking oneself in a dark room. Wind and rain might be kept outside but so are light and air." The value of free trade is obvious: things being produced by those most cost efficient at production makes us all aggregate better off with higher consumption, lower cost of living and more jobs.

Asia needs to find new opportunities for global trade. British government ministers are developing plans for securing preferential trade arrangements with former colonies (including Australia, New Zealand, Singapore, Malaysia and Africa) to cushion the blow of Brexit – a Commonwealth Trading Bloc. This idea has been endorsed by former Australian Prime Minister Tony Abbott saying "Brexit is not a vote against free trade because the EU has acted as a protectionist bloc for its members against imports from outsiders".

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Members of the business community in Singapore are keen on the Commonwealth Trading Bloc with the UK after its exit from EU. While the impending trade war between the US and China may have "limited" direct negative impact on Singapore's economy, it can have negative spill-over effects on global supply chains and weaken Singapore export-led growth. Hence the potential gains from free trade with Commonwealth members can cushion these negative spill-over effects for Singapore.

Adapted from *Thomson Reuters*, 31 Mar 2017, and *ASEAN Today*, 27 April 2017

Extract 6: Why leaving the EU could eventually be to UK economic advantage

The economic case for Brexit is not that there would be large economic gains; at least not in the short term. In fact, it could hurt UK economic growth and employment. Outside EU, UK would bear additional costs of dealing with the EU. Trade with EU countries might be worth about 10 per cent of GDP by 2030. If we faced average tariffs and non-tariff barriers of around 15 per cent, the loss could be 1.5 per cent of GDP.

While Brexit negotiations are still on the way, firms already seem more reluctant to take on new staff. Data from Adzuna, a popular job-search website, suggests that in the week after Brexit, there were one-quarter fewer new jobs. While some Britons struggle to find new jobs, others may be losing theirs. The search for "applying jobseeker allowance", an unemployment benefit, has increased about 50% in the first fortnight in July alone compared to the entire month of May. Businesses are cutting investment, too. An example is Deutsche Bank. The relocation of jobs from UK to Germany as early as next year, ahead of the March 2019 deadline for Brexit. It is a real concern as the bank won't be able to conduct business throughout Europe once the UK leaves the union.

Nonetheless, we should not assume away all the economic benefits of Brexit just by stories of large negative impacts. Benefits could outweigh the losses. There could be around 2 per cent of GDP gains made from the new free trade agreements with non-EU countries. UK would struggle less than when in EU because there are different interests in play in getting 28 countries plus the trade partner to agree. Overall, these effects could eventually add up to about a 0.5 per cent gain to GDP by 2030, though that's not guaranteed.

Adapted from *The Telegraph*, 26 May 2016 and *The Verdict*, 2 August 2017

Extract 7: Dairy products "may become occasional luxuries" after UK leaves EU

Everyday dairy staples such as butter, yoghurt and cheese could become "occasional luxuries" in UK after Brexit, with price rises being caused by the slightest delay in the journey from farm to table, a report by the London School of Economics finds. There are increasing concerns who will bear the cost of the rise in prices of imported dairy products.

If the UK crashes out of the EU with no deal and defaults to World Trading Organisation rules, prices will almost certainly rise as dairy products, along with meat, attract high tariffs. A milk product with a fat content of 3% to 6% will likely attract a tariff of 74%, while fresh mozzarella is rated at 41% and unripened cheese at 68%. Any import tariff, has an effect akin to an indirect tax on UK dairy retailers, such as Tesco, which raises the price of dairy products in the UK. Hence, there are rising concerns if UK dairy retailers or consumers will bear more of the impact of this indirect tax.

UK's dairy production deficit has been put in the spotlight after repeated warnings that the country needs to rely less on imports to feed the population. UK does not produce enough milk to keep up with demand, creating an over-dependency on the EU, including on dairy-surplus countries such as Ireland, Germany, France, Belgium and Denmark for everyday dairy staples.

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Arla is the largest dairy company in UK with a turnover of £2.6bn and supplies the big supermarket chains including Sainsbury's, Morrisons and Asda with branded and own-label products. It is a pan-European cooperative with production facilities in 11 countries supplied by its 11,200 dairy farmers, 2,400 of which are British. Commenting on the LSE report, Arla believed that Brexit might bring opportunities to expand the dairy industry in the UK, boosting the country's declining food security levels. However, increasing the UK's milk pool and building the infrastructure for us to be self-sufficient in dairy will take years.

Adapted from *The Guardian*, 18 July 2018

Questions

- (a) (i) Using the concept of opportunity cost, account for UK's trade balance with Singapore. [2]
- (ii) Explain a possible effect on Singapore's pattern of trade with UK if the plan for the Commonwealth Trading Bloc is realised. [2]
- (b) Explain how "EU has acted as a protectionist bloc for its members against imports from outsiders" (Extract 5). [3]
- (c) Using an AD/AS diagram, explain the combined effects of "some of the firms moving out of the UK because of Brexit" and "applying jobseeker allowance" on UK economic growth and employment in the short-term. [5]
- (d) Assess whether UK dairy retailers or consumers are more likely to bear the impact of the indirect taxes as mentioned in Extract 7. [8]
- (e) President Xi's belief is that "pursuing protectionism is just like locking oneself in a dark room. Wind and rain might be kept outside but so are light and air." (Extract 5)
Discuss why China differs from US in their perspective towards protectionism. [10]

[Total: 30]

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EUNOIA JUNIOR COLLEGE
JC2 Preliminary Examination 2018
General Certificate of Education Advanced Level
Higher 2

Economics

9757/02

Paper 2 Essays

17 September 2018

2 hours 15 minutes

Additional Materials: Answer Paper

READ THESE INSTRUCTIONS FIRST

Write your name, civics group and question number on the work you hand in.

Write in dark blue or black pen on both sides of the paper.

Write your answer to each question on a fresh sheet of paper.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **three** questions in total, of which **one** must be from Section A, **one** from Section B and **one** from **either** Section A or Section B.

At the end of the examination, **fasten your answers to each essay question separately**.

The number of marks is given in brackets [] at the end of each question or part question.

Please note that Paper 2 takes up 60% of the total score.

This document consists of **3** printed pages and **1** blank page.

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Answer three questions in total.

Section A

One or two of your three chosen questions must be from this section.

- 1 Toy building brick companies like Lego have increasingly switched away from using cheaper oil-based plastics to sustainable plant-based ones. Such a move will enhance their image, hence mitigating the effects of a pessimistic economic outlook. Additionally, parents are opting for mobile interactive games as an avenue for imaginative play for their children.

Discuss how the above might affect expenditure by consumers on toy building bricks and its related goods. [25]

- 2 Many firms have been aggressively expanding overseas. This expansion not only involves selling products in new markets, but also includes offshoring their production. Such expansion has not been welcomed by domestic firms in these overseas markets.

- (a) Explain why domestic firms might fear such expansion by foreign firms. [10]
(b) Discuss the view that the best strategy for domestic firms to respond to increased competition from foreign firms is to cultivate brand loyalty. [15]

- 3 Medical drugs have been marketed at such extraordinarily high prices that many people will simply not be able to afford them.

- (a) Explain the possible sources of market failure present in the medical drugs market. [10]
(b) Discuss how policies to address these sources of market failure may result in unintended consequences. [15]

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Section B

One or two of your three chosen questions must be from this section.

- 4 Many economists argue that managing rising price pressures is the single most important macroeconomic objective for governments.
- (a) Explain possible causes of rising price pressures of goods and services in an open economy. [10]
- (b) Discuss the extent to which a government's policy decisions to manage rising price pressures are affected by the degree to which its economy is open. [15]
- 5 (a) Explain how a country's circular flow of income could be affected by its trading partners' pro-trade policy. [10]
- (b) Discuss whether an increasing balance of payments surplus is necessarily desirable for a country. [15]
- 6 The Singapore economy is likely to see modest growth over the coming quarters, with GDP projected to expand by 1% to 3% for 2016. This is coupled with growing income inequality. With US adopting protectionism and its growth slipping further, global trade activities will continue to dampen.
- Discuss the relative effectiveness of an exchange rate policy and supply-side policies in addressing the above challenges for Singapore. [25]

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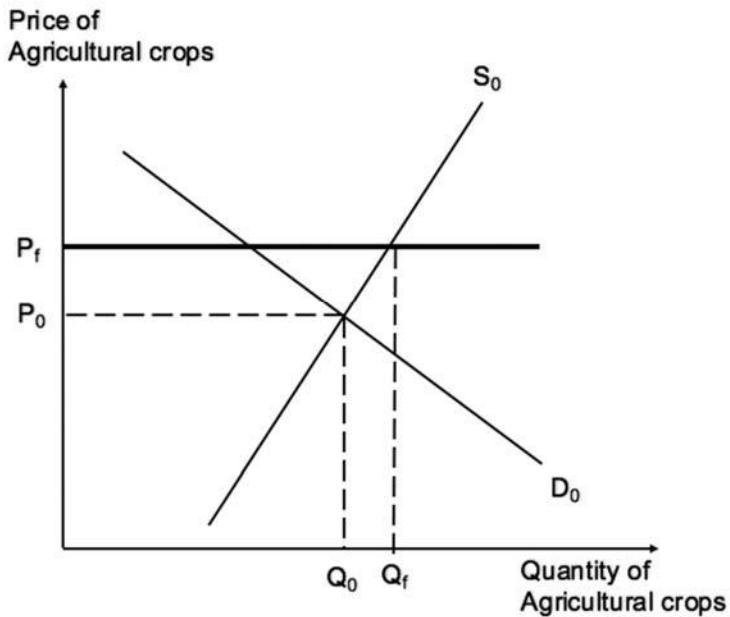
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2018 JC2 H2 Preliminary Examination Economics Paper 1
Suggested Answers, Mark Schemes

Case Study 1

(a) <p>Compare the fertiliser demand growth rates for nitrogen and phosphate between Africa and the Americas.</p> <p>Similarity: The growth rate for both commodities was positive for both regions. [1]</p> <p>Difference: However, the growth rate for nitrogen exceeded phosphate for Africa while the growth rate for nitrogen was less than phosphate for the Americas [1]</p> <p>Or</p> <p>Americas had a larger demand growth in phosphate while Africa had a larger demand growth nitrogen.</p>	[2]
(b) <p>State how the following goods are related:</p> <p>(i) phosphorous and meat</p> <p>The demand for phosphorous is a derived demand of meat. [1] [no mark for mere stating of derived demand as the cause and effect will be vague]</p> <p>or</p> <p>Phosphorous is a factor input for meat. [1]</p>	[1]
<p>(ii) meat and biofuels</p> <p>Both meat and biofuels are in competitive supply [1m]</p> <p>or</p> <p>Both meat and biofuels require the same factor input. [1m]</p> <p>Evidence: <i>"In developed regions, on the other hand, the shift towards a diet of meat and cheese has also increased phosphorus demand, since meat and dairy contain a significant proportion of phosphorus. As a result, countries everywhere face rising demands for phosphorus, which has led to precarious markets."</i></p> <p>In 2008, the price of phosphate fertiliser almost doubled because of increased demand for fertiliser (due to more meat consumption) and biofuels, and a short-term lack of availability of phosphate rock.</p>	[1]

(c)	<p>Explain two possible conditions that will encourage the successful formation of “an OPEC for phosphorous”.</p> <p><i>Any 2 reasons with justification</i></p> <ol style="list-style-type: none"> 1. They must sell homogenous good For the countries in cartel to not deviate from the agreed price, they must be selling the same good. If the good in question is different, retaliation by other countries in the cartel such as aggressively lowering the price would have no impact on the countries. 2. All the countries must abide by the quota Countries in the cartel need to abide by the quota. If any of the country decides to increase the quantity, it would lead to a higher Q and lower P compared to profit-maximisation outcome, hence rendering the cartel ineffective. 3. There must be a country that has a large market share In the event where the country deviates, the country that controls most of the market share can punish the deviator. 4. The good that is under the cartel must not have close substitutes If there are substitutes, consumers can turn to the substitutes. In doing so, the cartel would not be able to set a high price because the consumers will switch to other substitutes and disrupt the pricing and output decision by the cartel. 5. The countries must have similar cost structure. If the countries do not have similar cost structure, the country with the lowest cost of production will have a higher tendency to cheat, hence breaking down the cartel. 	[4]
(d)	<p>Using a diagram, explain how a price floor on agricultural crops could theoretically improve the living standards of Indian farmers, if implemented as part of the farmer-oriented initiative.</p> <p>1m [correct diagram] – Price floor diagram</p>	[3]



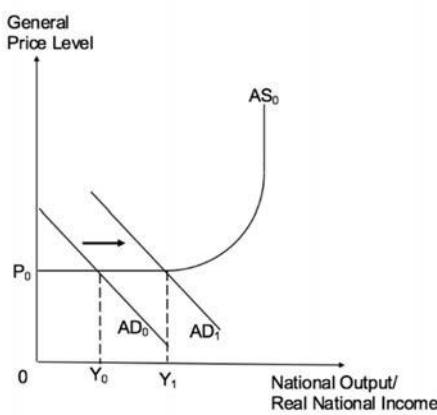
1m [Explain the diagram] – Price floor would raise the price of agricultural crops from P_0 to P_f . This will increase the revenue received (P_0Q_0 to P_fQ_f) by the farmers and assuming cost remains constant and the government buys up the surplus, this would cause an increase in profits.

Or

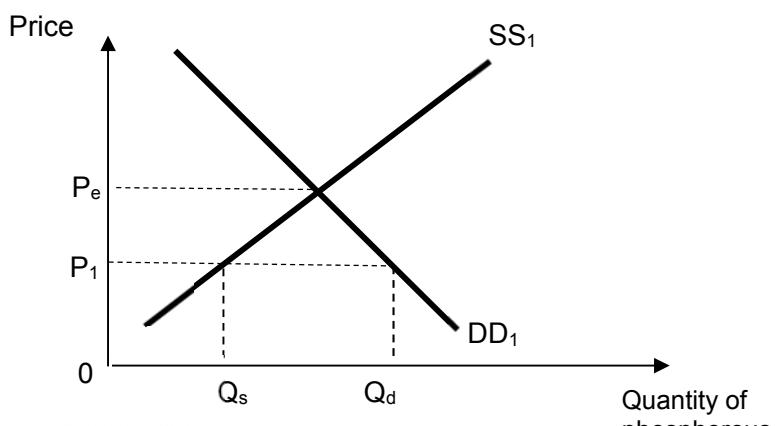
1m [Using PED] – The demand for agricultural crops is price inelastic because of the lack of substitutes. With the rise in price as a result of the price floor, this would lead to a less than proportionate fall in quantity demanded. This results in an increase in total revenue, even without the government buying up the surplus.

1m [link to SOL] - Hence, leading to a rise in purchasing power that will allow them to consume more goods and services.

(e)	<p>Identify a normative statement in Extract 4.</p> <p>Note: A normative statement must be a statement of opinion that cannot be objectively tested or proven.</p> <p>“One area that should be prioritised in reducing phosphorus is the smarter use of fertiliser.”</p> <p>“Therefore, it is increasingly necessary to promote a plant-based diet to reduce the amount of phosphorus consumption.”</p>	[1]
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<p>(f) Discuss whether the Indian government had sufficient information to make a rational decision to develop its phosphorous industry.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="padding: 2px;">Content</td><td style="padding: 2px;">Decision-making determinants</td></tr> <tr> <td style="padding: 2px;">Context</td><td style="padding: 2px;">Indian government in its decision to develop the phosphorous industry</td></tr> <tr> <td style="padding: 2px;">Command</td><td style="padding: 2px;">Discuss + Evaluation</td></tr> </table> <p>Rational decision making by the government is premised on its aim to maximise social welfare. In this case, to make a rational decision, we will analyse whether the India government had sufficient information pertaining to the benefits, costs, constraints faced and unintended consequences of developing its phosphorous industry.</p> <p><u>The information is sufficient for the India government to ascertain the benefits resulting from the development of the phosphorus industry.</u></p> <p>According to Extract 3 para 2, the fertiliser sector is one of 25 sectors identified as exhibiting high potential for profitable growth in India. One significant reason could be due to the huge demand for phosphorus, given that it is an essential nutrients in fertilizers for food production. Additionally, its demand is extremely price inelastic since phosphorus has no substitutes (Extract 1, para 2). An increase in price of phosphorus can lead to a less than proportionate decrease in its quantity demanded, hence increasing total revenue. Assuming total revenue is greater than total cost, there is huge potential for supernormal profits to be reaped from the development of this industry.</p> <p>Also, “Indian Prime Minister Narendra Modi has been encouraging the “Made in India” movement, pushing for new employment opportunities in the manufacturing sector, since he came to power in 2014”. By developing the phosphorus industry, it will be able to create domestic employment through foreign direct investment.</p>  <p>The increase in I will lead to an increase in AD, represented by a rightward shift of AD_0 to AD_1, hence resulting in RNY from Y_0 to Y_1. The rise in RNY</p>	Content	Decision-making determinants	Context	Indian government in its decision to develop the phosphorous industry	Command	Discuss + Evaluation	[8]
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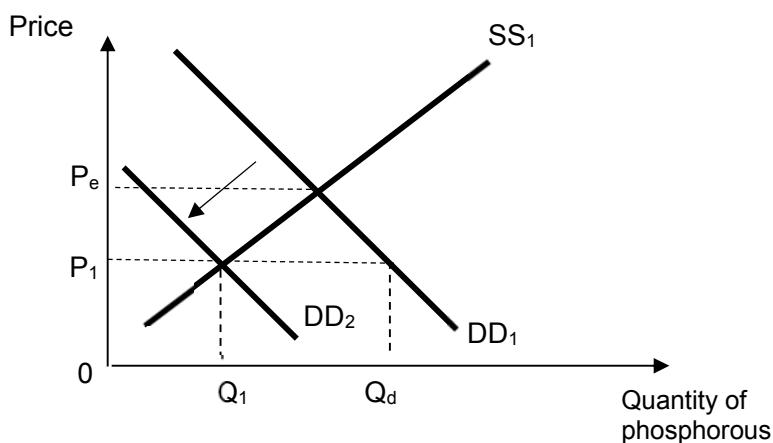
	<p>will lead to an increase in employment, since demand for labour is a derived demand for the increase in production of phosphorus. With the rise in employment, this would improve the standard of living of India's citizens.</p> <p>Furthermore, with the rise in FDI coming into India, this will lead to an improvement in her balance of payment position. By developing the phosphorus industry, this will attract more FDI into the country and ensuring the country will attain a healthy balance of payment position.</p> <p><u>The information is insufficient for the India government to ascertain the costs resulting from development of the phosphorus industry.</u></p> <p>While there is sufficient information on the benefits of developing the phosphorus industry, there is insufficient information on the total cost to the India government. In part, it is important to consider the unintended consequences of negative externalities that could arise from the production of phosphorus. Ext 1ract para 3 highlighted that inefficient use of phosphorus could pollute rivers and cause toxic algal blooms. This could possibly result in a loss of income for fishermen who are not directly involved in the production and consumption of phosphorus. Such negative externalities could lead to an overproduction of phosphorus and allocative inefficiency in the use of resources. As the government may not be able to accurately estimate the marginal external cost that arises given that the damage from pollution is extremely difficult to assess, the cost of developing the phosphorus industry may be higher than anticipated. Hence there may not be sufficient information for the government to ascertain whether the benefits would necessarily be greater than the cost of developing the phosphorous industry. Furthermore, the government ought to consider the finance of developing this sector as there might be budget constraints.</p> <p>Other possible considerations:</p> <ul style="list-style-type: none"> • The government does not have sufficient information on whether the development of the phosphorous industry will worsen income inequality in India. In the event that the India government would want to develop this sector, those workers working in the phosphorous industry would earn higher wages as compared to those in sunset industries. Hence, a worsening of income inequality would affect her economy as it might not attract investments into the country. • The government does not have sufficient information on how the investments by Morocco would affect India's future balance of payment position. This is because the profits by Morocco firms would be repatriated away and could thus worsen its BOP position. <p>EV: Despite being uncertain about the cost in terms of the negative externality in production of phosphorus, the India government's decision to go ahead to develop the phosphorus industry suggests that there is sufficient information to the government that the benefits would outweigh the costs of her decision.</p>	
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	<table border="1"> <thead> <tr> <th>Levels</th><th>Descriptors</th></tr> </thead> <tbody> <tr> <td>Level 2 (4 – 6 marks)</td><td> <ul style="list-style-type: none"> • Thorough and balanced analysis with reference from case study • Anchored on relevant economic analysis such as AD-AS. </td></tr> <tr> <td>Level 1 (1 -3 marks)</td><td> <ul style="list-style-type: none"> • Answers are lacking in depth of analysis or scope. • 1-sided answer </td></tr> <tr> <td>For Evaluative Comment (1 – 2 marks)</td><td> <ul style="list-style-type: none"> • Judgement/conclusion on whether the Indian government had sufficient information to develop the phosphorous industry. </td></tr> </tbody> </table>	Levels	Descriptors	Level 2 (4 – 6 marks)	<ul style="list-style-type: none"> • Thorough and balanced analysis with reference from case study • Anchored on relevant economic analysis such as AD-AS. 	Level 1 (1 -3 marks)	<ul style="list-style-type: none"> • Answers are lacking in depth of analysis or scope. • 1-sided answer 	For Evaluative Comment (1 – 2 marks)	<ul style="list-style-type: none"> • Judgement/conclusion on whether the Indian government had sufficient information to develop the phosphorous industry. 	
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(g)	<p>Assess the relative effectiveness of different policy approaches in response to the phosphorous shortage issue.</p> <table border="1"> <tbody> <tr> <td>Content</td><td>Shortage; demand and supply determinants, micro policies</td></tr> <tr> <td>Context</td><td>Policies to address the phosphorous shortage issue</td></tr> <tr> <td>Command</td><td>Assess + Evaluation</td></tr> </tbody> </table> <p>Analysis [7m] + Evaluation [3m]</p> <p>Phosphorous shortage refers to the issue of Q_d being more than Q_s at the existing market price, P_1. This arises due to rising demand and/or falling supply, and where the price is not able to reach P_e in the short run due to the transitional time needed i.e. inefficient workings of the price mechanism.</p>  <p>To address the shortage, a combination of demand- and supply-related policies need to be used i.e. to reduce the demand and to increase the supply.</p>	Content	Shortage; demand and supply determinants, micro policies	Context	Policies to address the phosphorous shortage issue	Command	Assess + Evaluation	[10]		
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Policy 1: Provide accessible information from the Wisconsin Index to farmers, emphasising ideals of conservation and long-term sustainability of phosphorous (DD-related)

Making available more information on how much phosphorous is needed for farming to prevent wastage in consideration of various factors like soil, temperature and weather patterns.

With imperfect information, demand for fertiliser and hence phosphorous will be higher. This policy, if successful, will reduce the demand for phosphorous, hence reducing the equilibrium price so as to eliminate the shortage – reaching market equilibrium of P_1 and Q_1 where there is no further tendency for change.



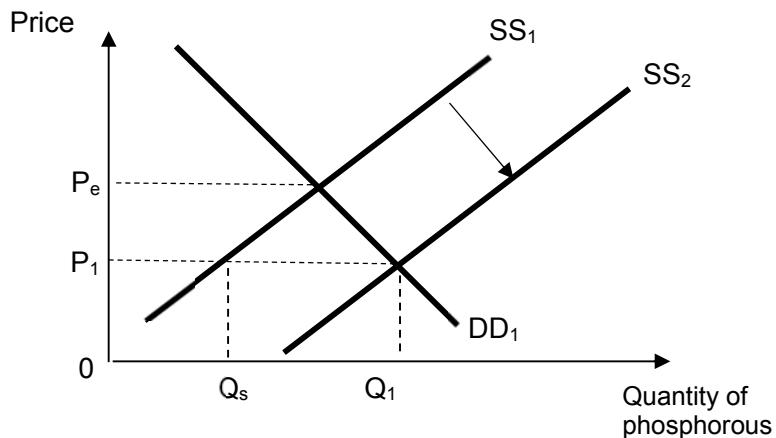
Assessment:

It will be effective since the farmers will want to reduce expenditure on phosphorous (their costs of production), in line with profit-maximising objective. However, it depends on how well they can internalise and apply the information made available to them via the Wisconsin Index. The effective use of the Index will require farmers to adapt it when there is a change of environmental conditions across the years. In considering the aptitudes of farmers who may not be as adept in processing such knowledge, the challenge of applying the Index effectively will limit its full potential. Farmers may likely still over- or even under-utilise phosphorous i.e. DD will not be exactly at DD_2 to correct the shortage.

Policy 2: Enhancing the supply through recycling human waste (SS-related)

Naturally-extracted phosphorous is finite and not easily extracted from phosphate rock, especially so when only a few countries produce it, in particular Morocco.

Recycling will provide a boost to the supply, relieving the price pressure and hence reducing the shortage which will now clear at equilibrium of P_1 and Q_1 .



Assessment:

Depends on whether it is cheaper to extract phosphorous out of waste or out of naturally-occurring phosphate rock. Intensive research is still ongoing to make recycling feasible and economical. A breakthrough will likely depend on the ability for the global community to harness the collective research findings. Moreover, the success will also depend on whether farmers have access to such technology (need for some sunk costs to be incurred first which may be too costly) and knowledge, translating it into their farming practice.

Policy 3: Promote plant-based diet (DD-related)

Plant-based diet (compared to meat and dairy diet) requires less phosphorous and hence will reduce the demand for phosphorous. This will reduce the equilibrium quantity, thus reduce the pressure of the 'multiple wants'.

Assessment:

Requires a fundamental change of tastes and preferences which will take a long time. Meat and vegetables are perceived by many to be poor substitutes terms of tastes, protein, iron content, etc. Dietary habits are also influenced by culture, religion and individual special needs. Self-interested consumers will thus likely only regard their immediate benefits so as to maximise their utility, rather than consider the wider impact of their actions on society or consider the long-term impact on self.

Evaluation

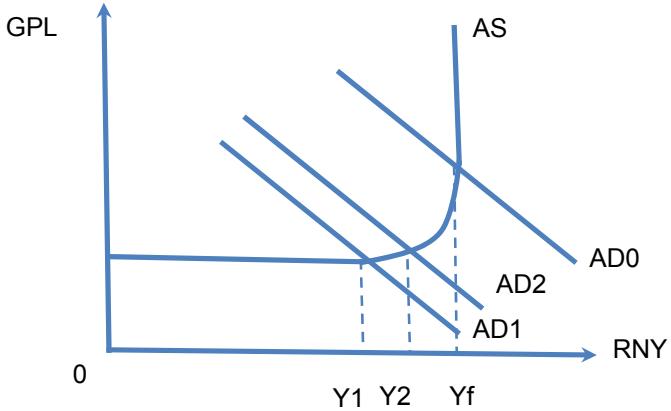
- Stand: whether demand- or supply-related policy is more effective in solving the phosphorous shortage issue, supported by a clear criterion, for example, which is more sustainable, feasible, etc.
- Maximum of 1 mark if candidate only discusses 2 demand-related policies and ranks them.

	Levels	Descriptors	
	Level 2 (5 – 7 marks)	<ul style="list-style-type: none"> • Thorough and balanced analysis on how 1 demand- and 1-supply-related policy works, with assessment of limitations. • Anchored on suitable demand-supply analysis with link back to the issue of phosphorous shortage. 	
	Level 1 (1 – 4 marks)	<ul style="list-style-type: none"> • Answers are lacking in depth of analysis or scope. • Limited reference made to case materials to substantiate argument. • For an imbalanced answer that addressed 2 demand-related policies without inclusion of a supply-related policy. 	
	For Evaluative Comment (1 – 3 marks)	<ul style="list-style-type: none"> • Judgement/conclusion on whether demand- or supply-related policy is more effective in solving the phosphorous shortage issue, supported by a clear criterion, for example, which is more sustainable. 	

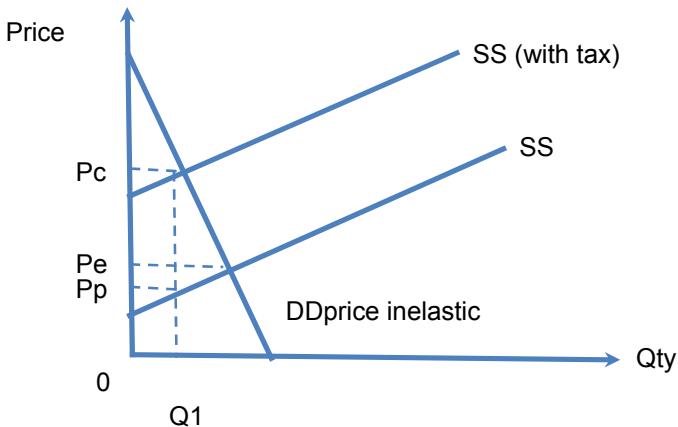
Case Study 2

Suggested Answers and Mark Scheme		
a)	<p>Using the concept of opportunity cost, account for UK's trade balance with Singapore.</p> <p><u>[1m] State the difference</u> UK has a trade surplus with Singapore.</p> <p><u>[1m] Explain UK trade surplus with Singapore using lower opportunity cost</u> UK has a trade surplus with Singapore because it has a CA in the production of more goods and services and/or higher valued goods and services compared to Singapore. This means UK is able to produce these goods and services at lower opportunity costs, so exports them to Singapore and importing fewer of them from Singapore.</p> <p><i>Evidence – Extract 5 “The value of free trade is obvious: things being produced by those most cost efficient at production...”</i></p>	[2]
aii)	<p>Explain a possible effect on Singapore's pattern of trade with UK if the plan for the Commonwealth Trading Bloc is realised.</p> <p><u>[1m] State a possible effect</u> Singapore can export more to UK after Commonwealth Trading Bloc is realised.</p>	[2]

	<p><u>[1m] Explain the possible effect</u></p> <p>UK will lower tariffs on imports from Commonwealth members, including Singapore. So price of Singapore exports to UK will fall, quantity demanded for SG exports will rise more than proportionately, and export revenue of Singapore to UK will rise. This is because UK demand for SG exports is likely to be price elastic, given close substitutes of high valued-added goods and services from advanced EU countries.</p> <p><i>Evidence – Extract 5 “For much of Asia, trade has been a key driver of economic growth. For example, in 2014, trade totalled 351% of Singapore’s total economic output...If there are higher trade tariffs on Asia, it would result in higher prices for goods produced in Asia and hurt export revenue. Asia needs to find new opportunities for global trade...a Commonwealth Trading Bloc...“Brexit is not a vote against free trade because the EU has acted as a protectionist bloc for its members against imports from outsiders”... Members of the business community in Singapore are keen on the Commonwealth Trading Bloc with the UK... the impending trade war between the US and China...weaken Singapore export-led growth. Hence the potential gains from free trade with Commonwealth members can cushion these negative spill-over effects for Singapore.”</i></p> <ul style="list-style-type: none"> • 	
b)	<p>Explain how “EU has acted as a protectionist bloc for its members against imports from outsiders” (Extract 5).</p> <p><u>[1m] State how EU acts as a protectionistic bloc against trade with outsiders</u> EU removes import tariffs on EU members and imposes high import tariffs on non-EU members.</p> <p><u>[1m] Explain how import expenditure on non-EU members fall</u> With higher import tariffs on non-EU members, price of imports from non-EU members rises. Since there are close substitutes from EU members, demand for imports from non-EU members is price elastic. So quantity demanded for imports from non-EU countries falls more than proportionate. So import expenditure on non-EU countries falls.</p> <p><u>[1m] Explain how import expenditure on EU members rise</u> As price of imports from non-EU members rise, imports from EU members are relatively cheaper as substitutes. So demand for imports from EU member rises, hence higher import expenditure on EU members.</p> <p><i>Evidence – Extract 5 “If there are higher trade tariffs on Asia, it would result in higher prices for goods produced in Asia and hurt export revenue. Asia needs to find new opportunities for global trade...a Commonwealth Trading</i></p>	[3]

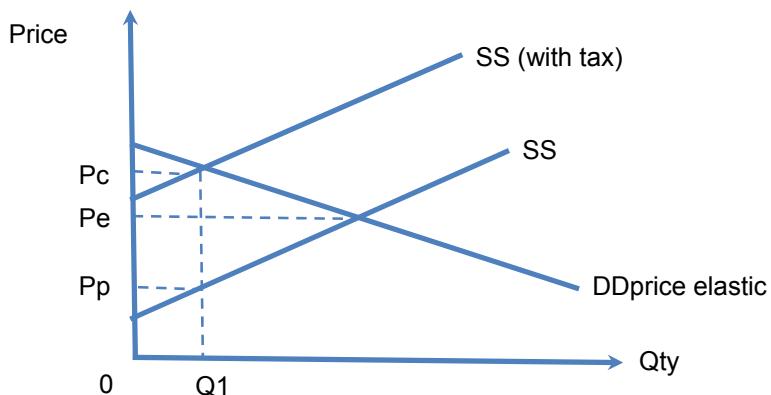
	<p><i>Bloc... “Brexit is not a vote against free trade because the EU has acted as a protectionist bloc for its members against imports from outsiders.”</i></p>	
c)	<p>Using an AD/AS diagram, explain the combined effects of “some of the firms moving out of the UK because of Brexit” and “applying jobseeker allowance” on UK economic growth and employment in the short-term.</p> <p>[1m] An AD/AS diagram</p> <p><u>Figure 1: Combined effects of firms moving out and applying jobseeker allowance (short-term)</u></p>  <p>[2m] Explain effect of “some of the firms moving out of the UK because of Brexit” on I and AD/AS, and then on UK economic growth and employment</p> <p>As firms move out, there will be a fall in investments. Since investment is a component of AD, there will be a fall in AD and a multiplied fall in RNY. This is because the fall in AD will lead to an unplanned increase in inventory, hence firms will cut back on production, leading to a fall in national output. Firms will also hire less factors of production, including labour, hence demand-deficient unemployment.</p> <p>Hence overall, the moving out of firms from UK will lead to negative economic growth from Y_f to Y_1 and demand-deficient unemployment (Y_1Y_f gap).</p> <p>[2m] Explain effect of ‘applying jobseeker allowance’ on C and AD/AS and then combined effects on UK economic growth and employment</p> <p>Jobseeker allowance is an unemployment benefit that serves as an automatic stabiliser for the UK economy. As the unemployed apply for jobseeker allowance, the decrease in household income of these unemployed workers may be partially offset by amount of unemployment benefit they receive from the government. While household income and induced consumption will still</p>	[5]

	<p>decrease, it decreases by a smaller extent. This means a smaller reverse multiplied fall in RNY.</p> <p>With a smaller reverse multiplied fall in RNY, UK negative economic growth will be less severe from Yf to Y2. As national output falls less, firms hire less factor of production by a smaller extent, so a smaller demand-deficient unemployment (Y2Yf gap).</p> <p><i>Evidence – Extract 6 “The economic case for Brexit is not that there would be large economic gains; at least not in the short term. In fact, it could hurt UK economic growth and employment. While some Britons struggle to find new jobs, others may be losing theirs. The search for “applying jobseeker allowance”, an unemployment benefit, has increased about 50% in the first fortnight in July alone compared to the entire month of May. Businesses are cutting investment, too. An example is Deutsche Bank. The relocation of jobs from UK to Germany as early as next year, ahead of the March 2019 deadline for Brexit.”</i></p>							
d)	<p>Assess whether UK dairy retailers or consumers are more likely to bear the impact of the indirect taxes as mentioned in Extract 7.</p> <p>Marks Allocation Analysis [6m] + Evaluation [2m]</p> <p>Question Analysis – Key Words</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Content</td><td> <p>“bear the impact of the indirect taxes” → explain the distribution of the tax burden/tax incidence between consumers and producers → depends on relative price elasticity of UK dairy retailers and consumers</p> <p>Perspective 1 UK consumers is more likely to bear the impact of the indirect taxes if demand is more price inelastic than supply.</p> <p>Perspective 2 UK consumers is less likely to bear the impact of the indirect taxes if demand is more price elastic than supply.</p> </td></tr> <tr> <td style="padding: 5px;">Context</td><td> <p>“UK dairy retailers and consumers”</p> </td></tr> <tr> <td style="padding: 5px;">Command</td><td> <p>“Assess whether UK dairy retailers or consumers are more likely to bear the impact” → Make a judgment on which economic player is more likely to bear the impact based on the relative price elasticity of UK dairy retailers and consumers</p> </td></tr> </table>	Content	<p>“bear the impact of the indirect taxes” → explain the distribution of the tax burden/tax incidence between consumers and producers → depends on relative price elasticity of UK dairy retailers and consumers</p> <p>Perspective 1 UK consumers is more likely to bear the impact of the indirect taxes if demand is more price inelastic than supply.</p> <p>Perspective 2 UK consumers is less likely to bear the impact of the indirect taxes if demand is more price elastic than supply.</p>	Context	<p>“UK dairy retailers and consumers”</p>	Command	<p>“Assess whether UK dairy retailers or consumers are more likely to bear the impact” → Make a judgment on which economic player is more likely to bear the impact based on the relative price elasticity of UK dairy retailers and consumers</p>	[8]
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	<p>→ Depends on nature of product, time period etc.</p>	
	<p><u>Introduction</u></p> <p>Whether UK dairy retailers or consumers is more likely to bear the impact of the indirect taxes depends on the relative price elasticity of demand and supply.</p> <p><u>Perspective 1: UK consumers is more likely to bear the impact of the indirect taxes if demand is more price inelastic than supply.</u></p> <p><u>Figure 2: Distribution of tax burden/incidence if demand is more price inelastic than supply</u></p>  <ul style="list-style-type: none"> For dairy products such as butter, yoghurt and cheese, they can be considered staples in the diet of UK consumers. The high degree of necessity means consumers will be less responsive and continue consumption of dairy products despite higher prices. So demand for imported dairy products is more price inelastic than supply. Moreover, demand for dairy products is price inelastic than supply due to the over-reliance on EU dairy products. There is a lack of domestic substitutes or lack of substitutes from non-EU dairy exporters. So the rise in prices of dairy products will lead to a less than proportionate fall in Qd, resulting in a rise in total revenue for UK retailers. Hence UK retailers can pass on the indirect taxes to UK consumers in terms of higher prices, so UK consumers bear more of the impact of the indirect taxes from Pe to Pc. UK retailers bear less of the impact of the indirect taxes from Pe to Pp. <p><i>Evidence – Extract 7 “UK’s dairy production deficit has been put in the spotlight after repeated warnings that the country needs to rely less on imports to feed the population. UK does not produce enough milk to keep up with demand, creating an over-dependency on the EU, including on dairy-surplus countries such as Ireland, Germany, France, Belgium and Denmark for everyday dairy staples.”</i></p>	

Perspective 2: UK consumers is less likely to bear the impact of the indirect taxes if demand is more price elastic than supply.

Figure 3: Distribution of tax burden/incidence if demand is more price elastic than supply



- When dairy products become “occasional luxuries”, its demand is more price elastic than supply. So dairy products become less of a necessity, and consumers will be more responsive to the higher prices and consuming less.
- Demand for dairy products can become more price elastic than supply. This is because as UK domestic production expands, so there will be domestic substitutes. There could also be other substitutes from dairy exporters like Australia and New Zealand if more free trade agreements such as the Commonwealth Trading Bloc is formed.
- So the rise in prices of dairy products will lead to a more than proportionate fall in Qd, resulting in a fall in total revenue for UK retailers. Hence UK retailers are less able to pass on the indirect taxes to UK consumers in terms of higher prices, so UK retailers bear more of the impact of the indirect taxes from Pe to Pp. UK consumers bear less of the impact of the indirect taxes from Pe to P_c.

Evidence – Extract 7 “Everyday dairy staples such as butter, yoghurt and cheese could become “occasional luxuries” in UK after Brexit. Arla believed that Brexit might bring opportunities to expand the dairy industry in the UK, boosting the country’s declining food security levels. However, increasing the UK’s milk pool and building the infrastructure for us to be self-sufficient in dairy will take years.”

Evidence – Extract 5 “British government ministers are developing plans for securing preferential trade arrangements with former colonies (including Australia, New Zealand, Singapore, Malaysia and Africa) to cushion the blow of Brexit – a Commonwealth Trading Bloc.”

EV (1-2m)

In the short-run, UK consumers are more likely to bear the cost of the rise in price of dairy products as demand is likely to be more price inelastic than supply

- Dairy products are likely to remain as staples than “occasional luxuries” for UK consumers as it takes time to adjust consumers’ taste and preferences.
- Dairy products are likely to be over-reliant on imports as EU govt priority will be more on the outflow of FDI across industries given Brexit, rather than just on the dairy product markets to expand domestic production and reduce dairy-deficit. It takes time to establish the Commonwealth Trading Bloc to get import substitutes for non-EU countries too.

Levels	Descriptors
Level 2 (4 – 6 marks)	<ul style="list-style-type: none"> • Balanced and well-developed analysis on how UK consumers may bear more of the impact of indirect taxes <u>AND</u> may bear less of the impact of indirect taxes based on relative price elasticities of demand and supply • Clear, relevant, accurate and precise economic theories/diagrams, and supported with evidence from case study
Level 1 (1 – 3 marks)	<ul style="list-style-type: none"> • One-side analysis on how UK consumers may bear more of the impact of indirect taxes <u>OR</u> may bear less of the impact of indirect taxes based on relative price elasticities of demand and supply <u>OR</u> • Under-developed analysis on how UK consumers may bear more of the impact of indirect taxes <u>AND</u> may bear less of the impact of indirect taxes based on relative price elasticities of demand and supply, <u>BUT</u> lacking clear, relevant, accurate and precise economic theories/diagrams, and lacking evidence from case study
For Evaluative Comment (1 – 2 marks)	<ul style="list-style-type: none"> • Evaluative judgements on whether UK retailers or UK consumers are more likely to bear the impact of the indirect taxes • Supported by a clear criterion, for example, in the short-run, why demand for dairy products by UK consumers is likely to be more price inelastic than supply of UK retailers.

e)	<p>President Xi's belief is that “pursuing protectionism is just like locking oneself in a dark room. Wind and rain might be kept outside but so are light and air.” (Extract 5)</p> <p>Discuss why China differs from US in their perspective towards protectionism.</p>	[10]								
	<p>Mark Allocation Analysis [7m] + Evaluation [3m]</p> <p>Question Analysis – Key Words</p> <table border="1" data-bbox="271 646 1195 1468"> <tr> <td data-bbox="271 646 457 720">Content</td><td data-bbox="457 646 1195 720">“why China differs from US in their perspective towards protectionism”</td></tr> <tr> <td data-bbox="271 720 457 1170"></td><td data-bbox="457 720 1195 1170"> <p>Perspective 1 China against protectionism → pro free-trade → benefits of free trade → China comparative advantage → export more price competitive → export-led economic growth → “higher consumption, lower prices, more jobs”</p> <p>Perspective 2 US pro protectionism → address costs of free trade → benefits of protectionism → import tariffs → reduce “trade deficits”, retaliate against unfair trade practices such as “China stealing American jobs, manipulating its currency and subsidizing their local manufacturers and exporters”.</p> </td></tr> <tr> <td data-bbox="271 1170 457 1221">Context</td><td data-bbox="457 1170 1195 1221">China and US; Free trade (exports and imports)</td></tr> <tr> <td data-bbox="271 1221 457 1468">Command</td><td data-bbox="457 1221 1195 1468"> <p>“Discuss why”</p> <p>→ Make a judgment on which China or US perspective is justified, or whose perspective is more justified. → Depends on nature of economy, state of economy, government priorities, time period etc.</p> </td></tr> </table>	Content	“why China differs from US in their perspective towards protectionism”		<p>Perspective 1 China against protectionism → pro free-trade → benefits of free trade → China comparative advantage → export more price competitive → export-led economic growth → “higher consumption, lower prices, more jobs”</p> <p>Perspective 2 US pro protectionism → address costs of free trade → benefits of protectionism → import tariffs → reduce “trade deficits”, retaliate against unfair trade practices such as “China stealing American jobs, manipulating its currency and subsidizing their local manufacturers and exporters”.</p>	Context	China and US; Free trade (exports and imports)	Command	<p>“Discuss why”</p> <p>→ Make a judgment on which China or US perspective is justified, or whose perspective is more justified. → Depends on nature of economy, state of economy, government priorities, time period etc.</p>	
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	<p>Introduction</p> <p>While both countries are large and less open (compared to Singapore), their perspectives towards protectionism differ.</p> <p>China - Pro Free Trade Perspective</p> <p>China believes in free trade because ‘light and air’ of free trade > ‘wind and rain’ of free trade</p> <p>i.e. positive net benefit as benefits of free trade > costs for China</p>									

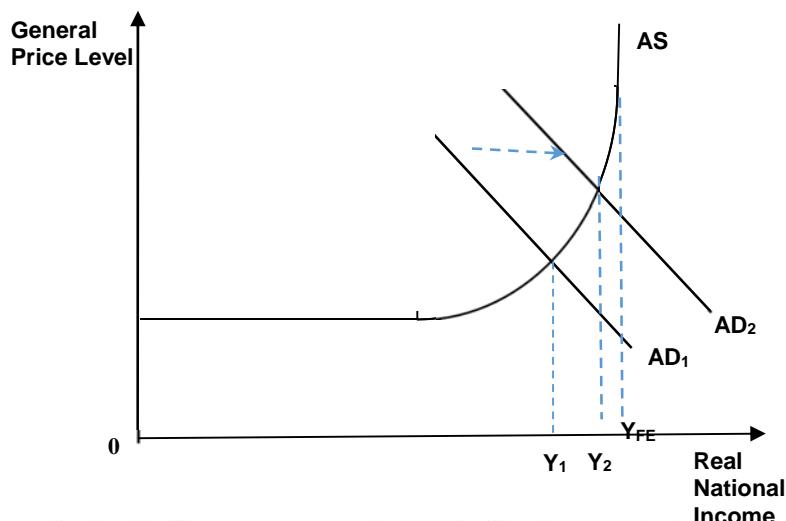
China has benefitted much from free trade due to its ability to possess many areas of comparative advantage. It is well-endowment of large pool of low wage labour force and hence enjoy comparative advantage in labour-intensive goods and services. This means it can produce labour-intensive goods and services at relatively lower opportunity cost compared to US. As Chinese economy develops, it has gained technological advancement and develops highly skilled labour, hence increasingly dispossess other advanced countries, including USA of their CA in higher value-added goods and services.

This translates to lower price of Chinese exports. Given that there are close substitutes available e.g. USA exports, quantity demanded of Chinese exports rises more than proportionately, China export revenue rises.

The above led to a prolonged period of China enjoying large and persistent trade surplus at the expense of US that is suffering from large trade deficit. Moreover, the changing CA patterns has impact on employment and incomes. Chinese workers are enjoying job gains and rises in incomes while US workers are bearing job losses and fall in incomes.

With, AD-AS analysis, the rise in export revenue and hence net exports results in China enjoying rising real NY and employment.

Figure 4: Export-led Economic Growth in China



Given a rise in (X-M), a component of AD, AD rises and shifts right. There will be a multiplied rise in real national income. This translates to higher national output. Firms will need to produce more goods and services to meet the higher demand. In so doing, firms will hire more workers (a derived demand), leading to a rise in incomes (since one man's spending is another's income). These workers will then consume more (also save more, get taxed more and spend more on imports, depending on size of MPS, MPT and MPM), leading to a further rise in incomes and hence creation of more jobs. Real national income

will rise through multiple rounds until $AD = AS$ again, where there is no tendency for any change to happen.

USA - Pro-Protectionism Perspective

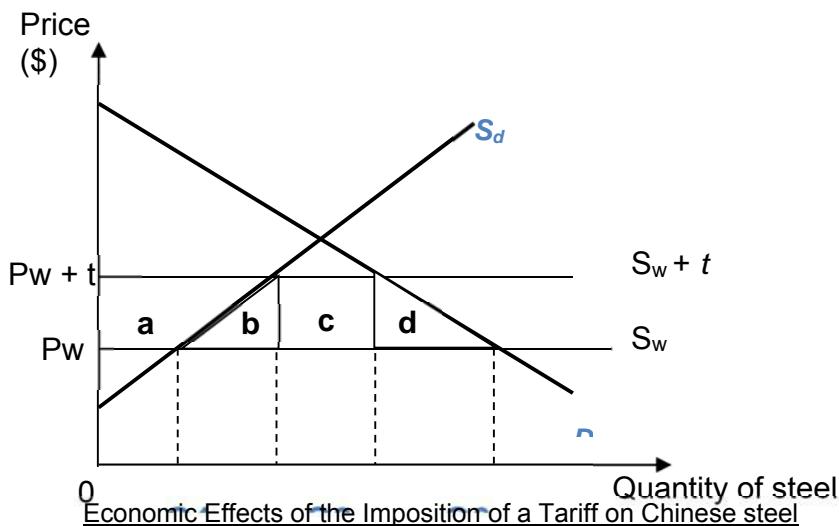
USA believes in protectionism because 'light and air' of free trade < 'wind and rain' of free trade

i.e. costs of free trade > benefits of free trade, so need to protect to address costs of free trade

USA loss of comparative advantage to China, hence China exports are cheaper than USA. In addition, Trump's assertion is that cheaper China exports resulted from unfair trade practices e.g. Chinese subsidies and manipulation of Chinese Yuan (weaker currency through depreciation/devaluation). So with cheaper Chinese exports, demand for USA exports falls, and hence export revenue falls. Similarly, domestic consumption falls also with cheaper imports from China. Since both X revenue and C domestic falls, AD falls, resulting in a multiplied fall in real NY and rise in demand-deficient unemployment. [Basically a reverse AD-AS analysis of the earlier diagram.] With export revenue falling and import expenditure rising, USA also suffers from rising trade deficit.

In response, US imposed protectionistic measures such as a tariff on Chinese imports in order to protect jobs, incomes and reduce trade deficit. Figure 5 below shows the diagrammatic analysis for a US tariff on Chinese imports and the benefits of protectionism for USA.

Figure 5: Import Tariffs by USA



Due to the imposition of a tariff, the quantity of imports falls from Q1Q4 to Q2Q3. This enables US firms to then produce more steel at the higher price of $P_w + t$

	<p>at the quantity of Q2, instead of Q1 previously. Thus, this has positive impacts of</p> <ul style="list-style-type: none"> Reducing import expenditure [from $(Q4 - Q1) \times P_w$ to $(Q3 - Q2) \times P_w$]. The rise in import price leads to a more than proportionate fall in quantity demanded of imports, since $PED_m > 1$ given domestic substitutes. With lower import expenditure, it will reduce trade deficit for USA. Rise in domestic production from Q1 to Q2, hence rise in employment (more workers needed to produce Q2). As consumers switch from imports to domestically produced goods, C domestic rises, AD rises, leading to a multiplied increase in real national income and rise in employment. Area C becomes tariff revenue for the US government. This could be used to finance long-run supply side policies to improve resource quantity and quality, hence strengthen comparative advantage for USA. With rising export revenue, it will reduce trade deficit. <p><u>Evaluation</u></p> <ul style="list-style-type: none"> Both China pro free trade and USA pro protectionism are justified given their respective government priorities in the short-run. For China, it has strong CA and has benefited from export-led economic growth and employment. While China could be over-reliant on external demand for its economic growth and employment, the negative impact of protectionism is currently limited to its trade with USA. Hence benefits of free trade still outweighs costs of free trade. As for USA, given the loss of CA to China and use of unfair trade practices by China, USA benefits from protectionism in the short-run so as to reduce its trade deficit and unemployment. While there could be costs of protectionism, such as higher prices and lower consumer surplus and productive inefficiency of domestic firms, the macro benefits of protectionism in terms of reducing trade deficit and unemployment could be US government priorities. Hence benefits of protectionism still outweighs costs of protectionism. USA protectionism is not justified in the long-run given that nature of economy. If USA has indeed lost its CA to China and lack information to prove that China adopted unfair trade practices e.g. subsidising Chinese exports and currency manipulation, then USA protectionistic stance is not justified. In the long-run, US should instead implement SS-side policies like productivity and innovation schemes so as to regain its lost or to create new areas of CA, so that exports become price competitive. Once its SS-side policies mature, US should revert to a pro free trade position, rather than protectionism. With strong CA, USA will 	
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	<p>benefit from free trade with rising export revenue, reduced trade deficit, multiplied rise in real national income and increase in employment.</p> <table border="1"> <thead> <tr> <th>Levels</th><th>Descriptors</th></tr> </thead> <tbody> <tr> <td>Level 2 (5 – 7 marks)</td><td> <ul style="list-style-type: none"> Balanced and well-developed analysis on why US <u>AND</u> China differ in their positions on protectionism Clear, relevant, accurate and precise economic theories/diagrams, and supported with evidence from case study </td></tr> <tr> <td>Level 1 (1 – 4 marks)</td><td> <ul style="list-style-type: none"> One-side analysis on why US <u>OR</u> China differ in their positions on protectionism <u>OR</u> Under-developed analysis on why US <u>AND</u> China differ in their positions on protectionism, <u>BUT</u> lacking clear, relevant, accurate and precise economic theories/diagrams, and lacking evidence from case study </td></tr> <tr> <td>For Evaluative Comment (1 – 3 marks)</td><td> <ul style="list-style-type: none"> Evaluative judgements on whose perspective is more justified Supported by a clear criterion, for example, US is less justified as it goes against the grounds of specialisation and trade (CA argument) </td></tr> </tbody> </table>	Levels	Descriptors	Level 2 (5 – 7 marks)	<ul style="list-style-type: none"> Balanced and well-developed analysis on why US <u>AND</u> China differ in their positions on protectionism Clear, relevant, accurate and precise economic theories/diagrams, and supported with evidence from case study 	Level 1 (1 – 4 marks)	<ul style="list-style-type: none"> One-side analysis on why US <u>OR</u> China differ in their positions on protectionism <u>OR</u> Under-developed analysis on why US <u>AND</u> China differ in their positions on protectionism, <u>BUT</u> lacking clear, relevant, accurate and precise economic theories/diagrams, and lacking evidence from case study 	For Evaluative Comment (1 – 3 marks)	<ul style="list-style-type: none"> Evaluative judgements on whose perspective is more justified Supported by a clear criterion, for example, US is less justified as it goes against the grounds of specialisation and trade (CA argument) 	
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EQ1

Toy building brick companies like Lego have increasingly switched away from using cheaper oil-based plastics to sustainable plant-based ones. Such a move will enhance their image, hence mitigating the effects of a pessimistic economic outlook. Additionally, parents are opting for mobile interactive games as an avenue for imaginative play for their children.

Discuss how the above might affect expenditure by consumers on toy building bricks and its related goods. [25]

Introduction

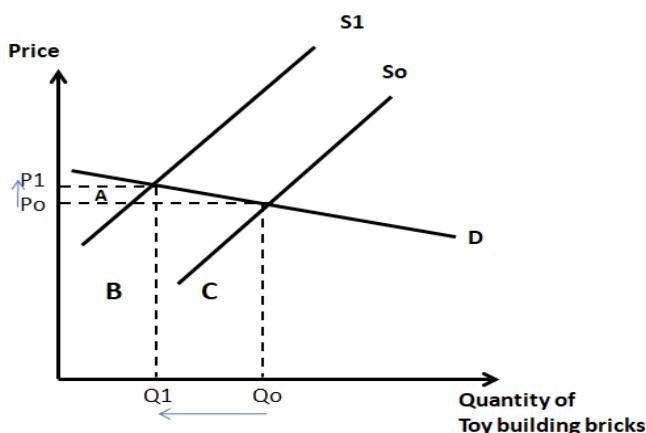
Consumer expenditure on goods and services can be derived by multiplying price by quantity consumed. Equilibrium price and quantity is determined by the demand and supply of the good or service. Changes in demand and supply can be caused by factors such as economic outlook and changes in taste and preferences. Such factors will lead to changes in consumer expenditure on toy building bricks as well as its related goods such as mobile interactive games and toy building bricks related guide books.

Body

P1: Switching from cheaper oil-based plastics to sustainable plant-based ones could lead to a fall in supply of toy building bricks thus affecting consumer expenditure.

Sustainable plant-based plastic costs more than the traditional oil-based ones. This switch will lead to a rise in cost of production for toy companies such as Lego. This means that the producer will need to receive a higher minimum amount of price for each corresponding unit in order to produce it. Producers such as Lego will reduce their supply thus causing a rise in equilibrium price and a fall in quantity. The change in expenditure will depend on the price elasticity of demand for toy building bricks.

Price elasticity of demand (PED) measures the responsiveness of a change in quantity demand due to the change of the price of the good itself ceteris paribus. Due to the availability of many close substitutes such as other types of toys and games which helps develop imagination and creativity such as Playdoh and K'Nex, consumers are very responsive to the changes in price of toy building bricks. A rise in price will lead to a more than proportionate fall in its quantity demanded.

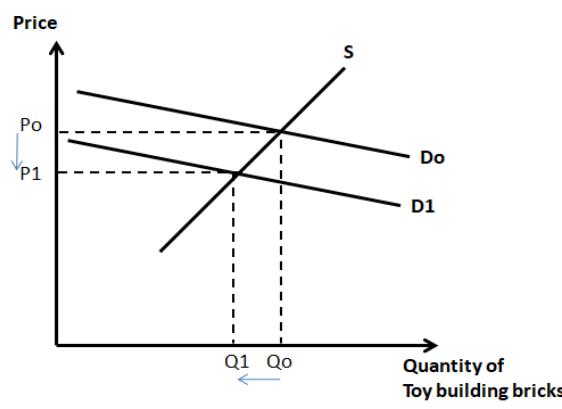


The fall in supply is represented by a leftward shift of the supply curve from S_0 to S_1 . Consumer expenditure changes from area $B+C$ to $A+B$. As the fall in expenditure (area C) due to the fall in quantity is greater than the rise in expenditure (area A) due to rise in price, consumer expenditure for toy building bricks will fall.

P2: The new environmental image of toy building bricks and the pessimistic economic outlook will affect its demand thus affecting consumer expenditure.

As consumers become more environmentally conscious, they tend to prefer to purchase more environmental friendly products such as toy building bricks made of sustainable plant-based plastics resulting in a rise in demand. This rise in demand however can be either mitigated or offset by a fall in demand due to the pessimistic economic outlook. The overall impact depends on the income elasticity of demand (YED) of toy building bricks.

YED measures the responsiveness of consumer demand due to the change in income. Toy building bricks are considered normal goods. Therefore the sign of YED is positive. The pessimistic economic outlook will result in consumers reducing their demand for normal goods in favour of inferior goods as they expect a fall in their purchasing power.



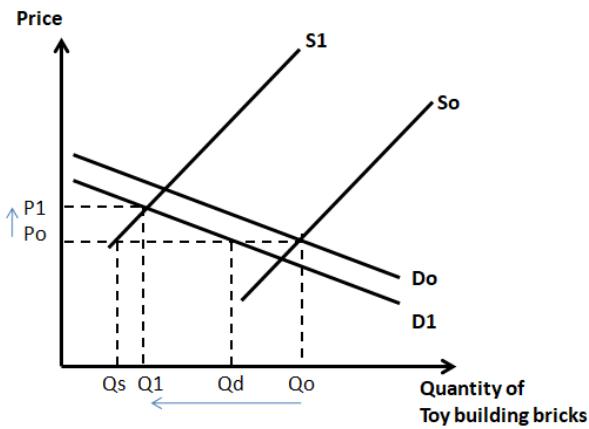
EV: Toy building bricks are also luxury goods as they are not essential and crucial for survival. Their YED value will be more than 1 meaning that there will be a more than proportionate fall in demand. This fall in demand will be able to offset the rise in demand due to the change in taste and preferences.

Demand will fall causing a leftward shift in the demand curve from D_0 to D_1 . The fall in price (P_0 to P_1) and quantity (Q_0 to Q_1) will result in a fall in consumer expenditure.

P3: The combined fall in demand and supply of toy building bricks will result in a change in its consumer expenditure.

The fall in demand and supply will result in a fall in quantity for toy building bricks. The change in price depends on the extent of the fall in demand and supply.

Ev: The extent of the fall in supply is greater than the fall in demand. This is because plastic is the main raw material in the production of toy building bricks. Therefore there will be a substantial increase in its production costs causing a large fall in its supply.



The initial price is at P_0 where the initial demand D_0 and supply S_0 curves intersect one another. With a leftward shifts in both demand and supply curves, a shortage of $Q_d - Q_s$ arises as quantity demanded (Q_d) is greater than quantity supplied (Q_s) at the initial price P_0 . This shortage will result in an upwards pressure on price. This upwards pressure on price will lead to a rise in quantity supplied and a fall in quantity demanded. Price will continue to rise until it reaches P_1 where $Q_d = Q_s$ at Q_1 . There will be an overall rise in price and fall in quantity. As $PED > 1$, consumer expenditure will fall.

P4: The rise in price of toy building bricks and change in taste and preferences will result in a rise in demand and consumer expenditure on mobile games.

With children getting more tech savvy and the development of games that cultivate imagination and creativity, consumer demand for mobile interactive games will increase.

The rise in price of toy building bricks will also affect the demand for these games depending on the cross elasticity for demand (XED) to the good. XED measures the responsiveness of the demand of a good due to a change in price of its substitute or complement. The sign of XED can be positive or negative depending on whether the other good is a substitute or a complement. Toy building bricks and mobile games are substitutes as they both competitively satisfy similar wants resulting in a positive XED for the goods. Both goods help cultivate imagination and creativity of children. A rise in the price of toy building bricks will increase the demand for mobile games as consumers switched to the cheaper alternative. Their XED value is also high meaning that they are close substitutes as children are getting more tech savvy allowing them utilise these games with ease.

Therefore, the rise in price of toy building bricks will result in a more than proportionate rise in demand for these games. Coupled with the change in taste and preferences for these games, demand will increase by a large extent causing consumer expenditure to rise exponentially due to the rise in price and quantity. This could offset the effects of the pessimistic economic outlook despite the YED of these games being more than 1 as they are not a form of necessity. Consumer expenditure will therefore increase.

P5: Rise in price of toy building bricks will lead to a fall in demand for its guide books thus reducing consumer expenditure on them.

The rise in price of toy building bricks will also affect the demand for its complements. Their XED sign is negative. These guide books (such as Avengers, Star Wars, etc) are considered a complementary good to toy building bricks as it allows the users to explore other methods of using them. The rise in price in toy building bricks will lead to a fall in its consumption leading to a fall in demand for these books. However their XED will be less than 1 meaning that these guide books are not essential in the usage of toy building bricks. Consumer can still create toy models based on their own imagination and creativity without the use of these guide books. Therefore the fall in demand for these books will be small causing consumer expenditure to fall by a smaller extent. However, the effects of the pessimistic economic outlook will cause consumer expenditure to fall further given that the YED of these guide books is more than 1 as they are not a form of necessity.

Conclusion

In conclusion, the above development has led to a fall in consumer expenditure on toy building bricks.

Stand with criteria

The most important factor will have to be the switch to the more costly sustainable plant-based plastics. The decision by toy building bricks companies to make the switch is to improve their image hoping that the rise in demand could offset the rising costs so that profit could rise.

Question underlying assumptions

However due to other factors such as the pessimistic economic outlook which could dampen the demand, these companies will not be able to enjoy as much of a rise in demand in the short run. However, if the economic conditions were to improve in the long run, demand might increase thus resulting in a rise in consumer expenditure. Furthermore, time is needed to change consumers' mindset and preferences towards more sustainable resources. We can therefore see a greater rise in demand and thus consumer expenditure on toy building bricks in the long run.

Marking Scheme

Level	Knowledge, Understanding, Application and Analysis	Marks
L3	<ul style="list-style-type: none"> For a detailed analysis of the impact of the mentioned factors on the expenditure on toy building bricks and its related goods (must cover 2 other related goods) Good application of both PED and XED to determine the impact on expenditure on the different markets. Well-drawn demand and supply diagrams (including simultaneous shift) to support clear analysis and made reference in the write-up. 	15-20
L2	<ul style="list-style-type: none"> Some analysis of the impact of the mentioned factors on sales revenues on the expenditure on toy building bricks and at least 1 other related good but analysis may not be rigorous Demand and supply diagrams drawn to support analysis but reference may not be consistent. Good application of at least 1 elasticity concept OR Some application of elasticity concepts to discuss the direction and extent in the change in expenditure. 	9-14
L1	<ul style="list-style-type: none"> For a descriptive response with some relevant points. Limited economic analysis. 	1-8
Level	Allow up to 5 additional marks for Evaluation	Marks
E3	<ul style="list-style-type: none"> Able to provide a reasoned judgement on the change or extent of change in consumer expenditure and/or considers SR vs LR perspective and/or challenges relevant assumptions. Evaluative judgement supported by appropriate analysis for the combined effect of the factors for the different markets. Assess the extent of impact on consumer expenditure using relevant elasticity concepts. 	4-5
E2	<ul style="list-style-type: none"> Some attempt at evaluation, but are mostly summative conclusion. 	2-3

	<ul style="list-style-type: none">Evaluation is relevant to the question but does not fully explain the judgment or does not base it on relevant analysis.	
E1	<ul style="list-style-type: none">Unexplained judgement OR limited or weak evaluative comments.	1

- 2 Many firms have been aggressively expanding overseas. This expansion not only involves selling products in new markets, but also includes offshoring their production. Such expansion has not been welcomed by domestic firms in these overseas markets.
- Explain why domestic firms might fear such expansion by foreign firms. [10]
 - Discuss the view that the best strategy for domestic firms to respond to increased competition from foreign firms is to cultivate brand loyalty. [15]

Suggested Answer for Part a

Question analysis

Approach	Command Word	Explain why – Provide reasons
	Question Type	Consequences
	End Point	Problems of expansion firms by foreign firms on domestic firms
Content and Context	Content	<ul style="list-style-type: none"> • Impact on revenue of domestic firms • Impact on costs of domestic firms
	Context	Not provided – to provide own examples

Introduction

As mentioned in the preamble, many firms have been expanding overseas and this has caused tremendous issues for domestic firms. These either involve a fall in revenue or an increase in costs of production, which has negatively affected the profits of domestic firms.

Fall in profits due to fall in total revenue

- With the expansion of foreign firms into domestic markets, this has resulted in a fall in demand for the goods and services produced by domestic firms. For example, the entry of Taobao (via both Lazada as well as the Taobao platform) into the Singapore market for electronics has resulted in many consumers who previously purchased from domestic firms such as Courts, to **switch towards purchasing from these foreign substitutes**. The fall in demand has led to a fall in total revenue for domestic firms, resulting in a fall in profits.
- Many of these foreign competitors are also producing at a much larger scale as they cater a bigger market in their own countries. Thus, many of the foreign competitors are able to enjoy economics of scale which cannot be enjoyed by relatively domestic firms in countries such as Singapore. The ability to produce at a lower average cost than their domestic rivals has allowed these **foreign firms to better engage in price competition** due to their cost advantage to chase out these domestic rivals from the market. This can be done by setting a price below the average cost of the domestic firm but yet higher than the average cost of the foreign firm, allowing the foreign firm to continue making supernormal profits. For example, the initial entry of Chinese bike sharing companies, such as Ofo and Mobike, has driven domestic firms such as Obike to such down, as they are unable to compete with the prices offered by Ofo and Mobike.

3. The entry of foreign firms also increases the number of substitutes available to domestic consumers. Thus, the **demand for a domestic firm's goods/services will become more price elastic**. This means that should there be an increase in cost, for example due to increase in rent or labour costs, the domestic firm will be **less able to pass on the cost increase** by raising prices as this will result in a more than proportionate fall in quantity demanded, and a fall in total revenue.

Fall in profits due to increase in costs of production

- As stated in the preamble, foreign firms have also been offshoring their production overseas. For example, Apple has offshore production of some components of iPhones to countries such as China and Taiwan. Such actions by foreign firms will drive up the demand for factors of production, such as land and labour, in these countries, and results in an **increase in costs of production in the form of higher wages and rent**. This has reduced the profits that can be earned by domestic firms, who may not even be selling the same goods and services as these foreign firms, but uses the same factors of production.
- For domestic firms who are in direct competition with these foreign firms, the fall in demand as explained earlier, will result in a fall in the scale of production. This will **reduce the ability of domestic firms to exploit internal economies of scale** and results in an increase in average cost of production. Thus, profits will fall.

In conclusion, domestic firms fear expansion by foreign firms as they are likely to bring about a fall in revenue as well as increased costs.

Level descriptors

Level	Out of 10 marks	Descriptors
Level 3	8-10	<p>Displays full slew of skills across AO1, AO2 and AO3:</p> <ul style="list-style-type: none"> • Thorough knowledge displayed by explaining how expansion by foreign firms affects a domestic firm's revenue and costs • Clear and coherent analysis, grounded by economic concepts, frameworks and principles • Good use of relevant examples • Considers at least 3 ways in which revenue and costs are affected.
Level 2	5-7	<p>Displays AO1 and AO2 skills:</p> <ul style="list-style-type: none"> • Answers are relevant to question but undeveloped explanation of impact on costs and revenue • Answers that only consider either revenue or cost • Must consider at least 2 ways in which revenue and cost are affected • Limited use of examples; pure theoretical answer
Level 1	1-4	<p>Uneven display of AO1 and AO2 skills:</p> <ul style="list-style-type: none"> • Smattering of points • Many conceptual errors • Fails to address question requirement (For example considers increase in revenue or fall in costs)

- (b) Discuss the view that the best strategy for domestic firms to respond to increased competition from foreign firms is to cultivate brand loyalty. [15]

Question analysis

Approach	Command Word	Discuss the view: balanced answer + EV
	Question Type	Strategies
	End Point	Whether cultivating brand loyalty is the best way to respond to increased competition
Content and Context	Content	<p>Thesis</p> <ul style="list-style-type: none"> How cultivating brand loyalty reduces the problem of increased competition from foreign firms <p>Anti-thesis</p> <ul style="list-style-type: none"> Limitations of cultivating brand loyalty How other strategies can also be used to respond to increased competition from foreign firms
	Context	Not provided – to provide own examples

Suggested Answer for Part b

In view of the expansion by foreign firms as explained above, domestic firms can respond by building brand loyalty or by other means.

Thesis: Building brand loyalty can help domestic firms respond to increased competition from foreign firms

How building brand loyalty works:

Domestic firms can build brand loyalty through generating actual or perceived differences. For example, domestic firms can engage in advertising campaigns to market the superior quality of its products to those produced by foreign firms. For example, domestic Singapore banks such as DBS, OCBC and UOB still maintain a strong brand loyalty among local consumers as their historical performance have been more stable, as compared to foreign banks which have generally taken a greater blow during the 2008 Global Financial Crisis. **Developing a strong brand loyalty will reduce the degree of substitutability and cross price-elasticity of demand (XED)** the domestic firms' products with respective to the foreign substitutes.

First, this will mean **a smaller fall in demand** due to the entry of foreign firms, as consumers are less likely to switch their consumption patterns due to the strong brand loyalty.

Second, reducing the XED value will also make the domestic firm less susceptible to the foreign firm's pricing strategy, since a fall in price of the foreign firm's products will only result in **a less than proportionate fall in demand**. Thus, profits will only be reduced to a smaller extent.

Anti-Thesis (1): Building brand loyalty has its limitation in helping domestic firms respond to increased competition from foreign firms

- Building brand loyalty takes time.** In today's globalised world, the entry of foreign firms into different markets is happening rapidly. It is almost impossible for any domestic firms to have sufficient time to build brand loyalty, especially for newer

domestic firms. Even though building brand loyalty can help to address the issue, it often takes too long to be effective.

2. **Building brand loyalty involves costs.** Marketing and advertising involves large costs, especially when competing against the marketing and appeal of global giant firms. Thus, engaging in efforts to build brand loyalty may result in a greater fall in profits.
3. **Building brand loyalty does not address the increase in costs of production that comes about from increased foreign competition.** As explained in part (a), the entry of new firms can bring about an increase in costs of production as they are competing for the same FOPs.

Anti-Thesis (2): Other strategies may be better in helping domestic firms respond to increased competition from foreign firms

1. **Mergers with other domestic firms.** For domestic firms operating in smaller consumer markets such as Singapore, they are unlikely to be able to enjoy the same level of EOS as larger foreign competitors. Thus, one possible strategy to address this issue is for the smaller domestic firms to **merge so that they are able to enjoy cost savings from the ability to enjoy economies of scale**. This will enable these domestic firms to better engage in price competition with these foreign firms.
2. **Expansion overseas.** Another way to respond to the entry of foreign firms is for domestic firms to expand overseas instead. This is especially so if the domestic firms see that prolonged competition (both price and non-price) with foreign firms will result in large costs being incurred and profits being negatively affected. Thus, expansion overseas will allow domestic firms to **generate revenue that could mitigate the loss of revenue from the entry of foreign firms**. For example, as the financial sector gets more saturated in Singapore, domestic banks have started to expand overseas, especially in fast developing countries such as China and Vietnam.
3. **Limit Pricing.** For domestic firms in bigger countries, such as US and China, with a large consumer market, they are likely to be able to enjoy EOS to a greater extent. For these firms, they are able to **set limit pricing (pricing below the profit maximizing price) in order to deter foreign firms** from entering the domestic market. Such actions might send the signal to foreign firms that domestic firms are willing to reduce price and endure subnormal profits in the short run if these foreign firms enter the market.

Evaluation

- Which strategy is the best will depend on the market in question. For example, in markets where the domestic firms is already well established, building on its brand to develop consumer brand loyalty is a viable strategy since the marginal costs of doing so is relatively low.
- However, in markets where the domestic firms are either relatively small and not well established, it is unlikely that developing brand loyalty will help a firm to deal with increasing foreign competition in the short run. In these cases, mergers of these domestic firms will likely be a more effective strategy. Such mergers will also allow the domestic firms to possibly expand overseas.

Level descriptors

Level	Out of 10 marks	Descriptors
Level 3	8-10	<p>Displays full slew of skills across AO1, AO2 and AO3:</p> <ul style="list-style-type: none"> • Balanced answer on whether developing brand loyalty is the best strategy • Considers at least one other strategy • Clear and coherent analysis, grounded by economic concepts, frameworks and principles • Good use of examples
Level 2	5-7	<p>Displays AO1 and AO2 skills:</p> <ul style="list-style-type: none"> • Balanced but under developed answer • There is clarification of question and application of economic concepts, frameworks and principles to relevant contexts • Limited use of examples <p>Answers that don't consider other strategies</p>
Level 1	1-4	<p>Uneven display of AO1 and AO2 skills:</p> <ul style="list-style-type: none"> • Does not address the question (one sided answer) • Smattering of points or conceptual errors

Levels	Out of 5 marks	Descriptors
E3	4-5	<p>Well-reasoned judgements/decisions</p> <ul style="list-style-type: none"> • Critically evaluates policy choices • Synthesises economic arguments to arrive at well-reasoned judgements and decisions
E2	2-3	<p>Largely unexplained judgements</p> <ul style="list-style-type: none"> • Some attempt at evaluation or a summative conclusion • Relevant to the question but does not substantiate the judgement • Evaluation may not be a logical progression from the prior analysis
E1	1	<p>An unsupported judgement</p> <ul style="list-style-type: none"> • Mere evaluative statements or judgements that are neither supported nor relevant to the specific context of the question

- 3 Medical drugs have been marketed at such extraordinarily high prices that many people will simply not be able to afford them.
- (a) Explain the possible sources of market failure present in the medical drugs market. [10]
- (b) Discuss how policies to address these sources of market failure may result in unintended consequences. [15]

Suggested Answer for Part a

Question analysis

Approach	Command Word	Explain
	Question Type	Causes of Market Failure
	End Point	Sources of Market Failure present in medical drugs market
Content Context	Content	<ul style="list-style-type: none"> • Market Dominance • Imperfect information • Inequity
	Context	Medical Drugs Market

The sources of market failure in the medical drugs market are market dominance, imperfect information and inequity.

Source 1: Market Dominance

The market for medical drugs are dominated by a few major pharmaceutical firms such as GlaxoSmithKline, Amgen, and Novartis. This results in a situation where monopoly power exists in the market, and each firm in the market faces a downward sloping demand curve. With reference to Figure 1, the firm chooses to produce at output Q_e , where $MC = MR$ so as to maximize profits. However, at Q_e , the equilibrium price is higher than its marginal cost i.e. $P > MC$. In other words, society values medical drugs more than what it costs the monopolist (society) to produce it in terms of the opportunity costs of the resources required. The allocative efficient output is achieved at Q_s where $P=MC$. Hence, there is underproduction by the amount $Q_s - Q_e$. **Too few resources are being allocated to the production of medical drugs**, resulting in deadweight loss (area ABC). This leads to market failure.

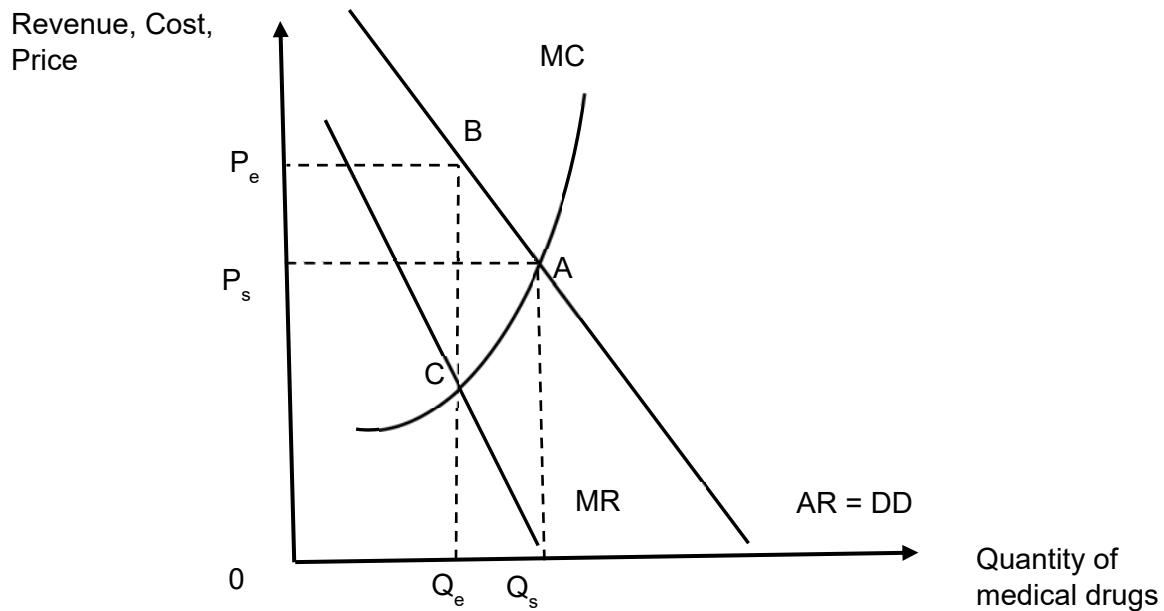


Figure 1: Market Failure due to market dominance

Source 2: Inequity

Since the market is only dominated by a few large firms, the demand curve facing each pharmaceutical firm is relatively price inelastic. Thus, the profit maximising price will occur at a relatively high level, and as stated in the preamble, this will result in high prices for medical drugs, some of which may be essential medication. Due to the high prices, such **essential medication are not made available to low income families**, resulting in market failure.

Source 3: Imperfect information

Consumers who consume medical drugs may underestimate the benefit of the medical drugs, as they may not have complete knowledge. Consumers may not be aware of how consumption of certain medical drugs (such as vaccinations) can increase chances of survival significantly. In many places around the world, some consumers (known as Anti-vaxxers) have questioned the effectiveness of vaccinations due to dubious research (which has been discredited), and go as far as to refuse being vaccinated. In these situations, **consumers' perceived private benefit of consuming vaccinations is lower than the actual private benefit of consuming vaccinations ($MPB_{Perceived} < MPB_{Actual}$)**.

Source 4: Positive Externalities in Consumption

There are positive externalities accrued to those who are not involved in the consumption of medical drugs. An example of this is the benefit that family members and colleagues (who don't consume the medical drugs) are also less likely to suffer from illnesses. Due to the presence of the positive externality, the Marginal Social Benefit (MSB) is greater than the Marginal Private Benefit (MPB_{Actual}).

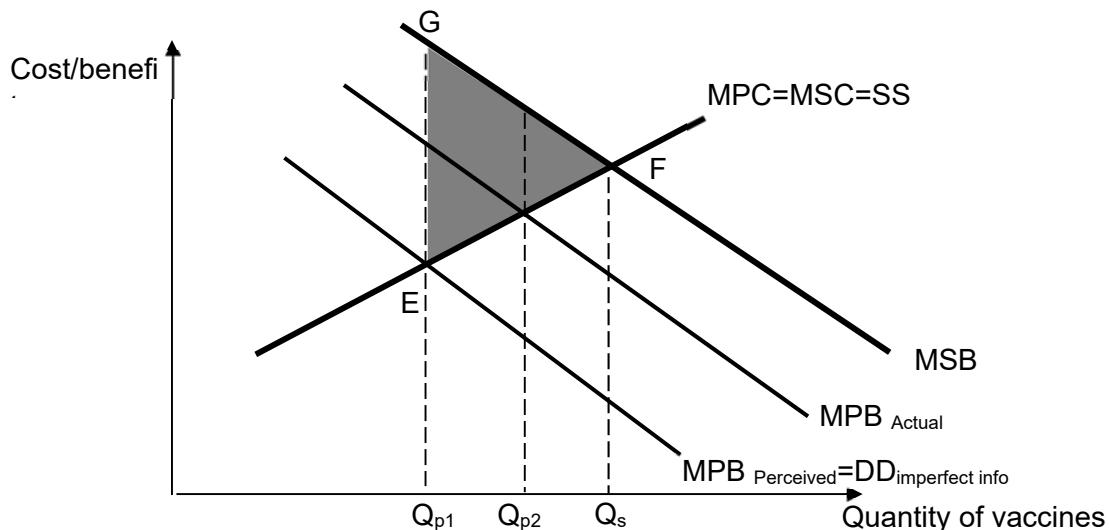


Figure 2: Imperfect information and Positive externality in consumption in vaccines

(Combining Sources 3 and 4)

In the free market, the market equilibrium is Q_{P1} , determined by the fact that consumers and firms consider only its private benefits and private costs respectively ($MPB=MPC$). However, the socially-optimal amount is Q_s where $MSB=MSC$. Since $Q_{P1}<Q_s$, there will be an under-consumption of vaccines in the free market. At quantity Q_P , marginal benefit to society is greater than marginal cost to society. This means that societal welfare could have been gained by increasing quantity up to the socially optimal output of vaccines Q_s . This forgone societal welfare is the deadweight loss (shaded area). Hence, the free market causes under-consumption of vaccines, leading to allocative inefficiency and hence market failure.

Level descriptors

Level	Out of 10 marks	Descriptors
Level 3	8-10	Displays full slew of skills across AO1, AO2 and AO3: <ul style="list-style-type: none"> Thorough knowledge displayed by explaining the sources of market failure Clear and coherent analysis, grounded by economic concepts, frameworks and principles Good use of relevant examples Considers at least 2 sources of market failure
Level 2	5-7	Displays AO1 and AO2 skills: <ul style="list-style-type: none"> Answers are relevant to question but undeveloped explanation of sources of market failure Limited use of examples (Pure theoretical answer will be capped at 5m) 1 source of market failure (Capped at 5m) No diagrams (capped at 7m)

Level 1	1-4	Uneven display of AO1 and AO2 skills: <ul style="list-style-type: none">• Smattering of points• Many conceptual errors• Fails to address question requirement
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- (b) Discuss how policies to address these sources of market failure may result in unintended consequences. [15]

Approach	Command Word	Discuss how: Balanced answer + EV
	Question Type	Consequences
	End Point	Unintended consequence of policies to address market failure
Content and Context	Content	<ul style="list-style-type: none"> • Policy to address market dominance and its unintended consequences (limitations) • Policy to address inequity and its unintended consequences (limitations) • Policy to address imperfect information and its unintended consequences (limitations)
	Context	Medical Drugs Market

Introduction

With reference to part (a), government intervention can help to address market failure due to various sources but these policies often bring about unintended consequences.

Body

Policy to address market dominance and inequity: Price controls (Marginal cost pricing)

How it works: With reference to figure 1, governments can **impose a price ceiling = Ps**. Producers will no longer be able to charge their original profit maximizing price (P_e), but instead the price ceiling will induce pharmaceutical companies to increase production to Q_s . This **addresses the allocative inefficiency** in the production of medical drugs. At the same time, setting a price ceiling also reduces the price from $P_e \rightarrow P_s$ and this will increase the affordability of essential medical drugs to low income families, thereby **reducing the inequity** present in the market for medical drugs.

Unintended consequence 1: The imposition of a price ceiling will lower the supernormal profits made by these pharmaceutical companies to become sub-normal profits. Medical drugs are developed through a rigorous and long drawn process of research and development. These R&D processes are often costly, with no certain of success. The reduction in supernormal profits will reduce both the ability and willingness of pharmaceutical companies to undertake such R&D. In the long run, the quality of medical drugs may not improve to as large as an extent as it could have been, **worsening consumer welfare**.

Unintended consequence 2: In the extreme case, the imposition of such price ceilings will cause pharmaceutical firms to shut down if the price ceiling is set below the average cost of the firms in the long run (also if $P < AVC$ in the short run). This will **create even greater deadweight loss to society**, since production levels will now fall to zero. In order to cut costs so as to maintain supernormal profits, pharmaceutical firms may also engage in fewer safety tests for their medical drugs and this will have further repercussions on consumer health and welfare in the long run.

Policy to address imperfect information/positive externalities: Indirect subsidies

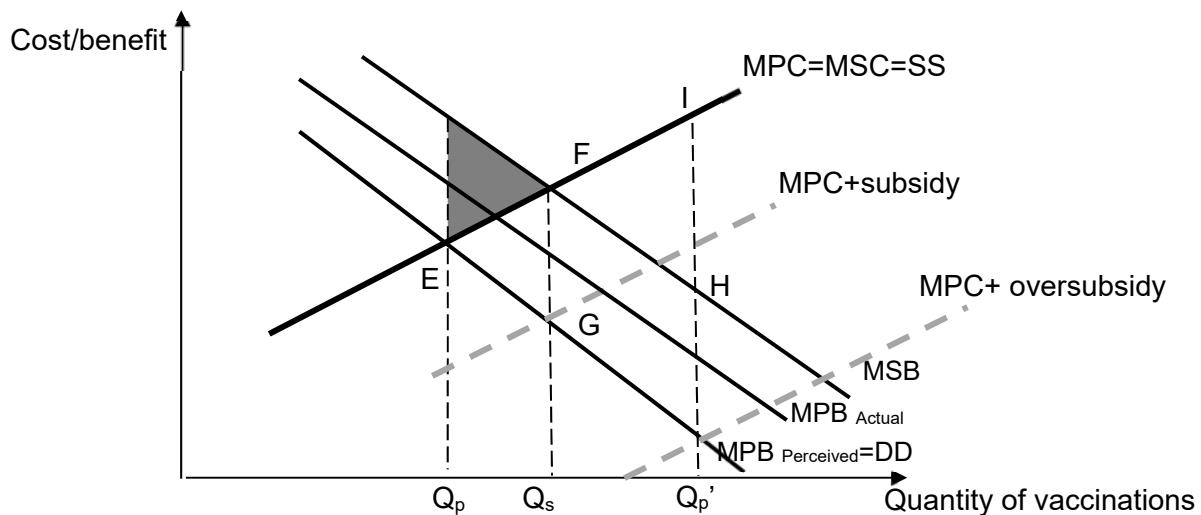


Figure 3: Imperfect information as a source of market failure

How it works: If the government gives the producer a subsidy per unit that is equal to GF, the supply curve (**MPC to MPC+subsidy**) will shift to the right or vertically downwards by the full amount of the subsidy (GF). Since firms have increased the supply of health screening, the market price will fall, ceteris paribus. The lower price of health screening will induce consumers to increase the quantity demanded from Q_p to Q_s , the level of output that is allocative efficient and the deadweight loss has been eliminated.

Unintended Consequence 1: Indirect subsidies on medical drugs (such as vaccinations) may also incur opportunity costs and strain on the government budget. In the case of a country such as Singapore, which is facing an ageing population, there could be more pressing needs in other areas such as housing. If the imposition of the subsidies in the medical drugs market requires subsidies to be reduced in other markets, the **allocative inefficiency may just be transferred from one market to another**.

Unintended Consequence 2: Due to imperfect information, it may be hard to have an accurate valuation of the level of imperfect information. Hence, the government may not know the optimal amount of subsidy to give to attain the socially efficient output and may over-subsidize leading to over consumption. As shown in the diagram above, if too high a subsidy is given (**MPC + subsidy'**), this will result in an even greater deadweight loss (Area FHI), worsening the market failure instead.

Policy to address imperfect information: Education Campaigns

How it works: Public education campaigns increases the public's awareness of the positive benefits of consuming medical drugs such as vaccinations. One of the ways is providing information in the form of pamphlets or advertisements on the benefits of vaccinations. If successful, such public education campaigns reduce the level of imperfect information, and reduce the divergence between $MPB_{perceived}$ and MPB_{actual} . As such, the market will respond by increasing the quantity consumed towards the socially-optimal amount Q_s .

Unintended Consequence 1: Such education campaigns may be long drawn as it will take a significant amount of time to change consumers' mindsets. Thus, significant costs can be incurred by the government, which could have been used to address inefficiency and inequity in other markets. Again, a trade off will be incurred.

Evaluation

- It is inevitable that every policy has unintended consequences due to the presence of trade-offs in every choice made by the government on how to enact policies to allocate resources. This is fundamentally due to the problem of unlimited wants and limited resources.
- To minimize such unintended consequences, governments will have to expand the amount of resources available so that less trade-offs need to be made. These will not only involve microeconomic policy choice, but also macroeconomic ones to grow the economy.

(Other possible EV points: Which unintended consequence is most severe etc)

Note: there are many other policies that students can possibly use for these answers. As long as they reasonably address the sources of market failure explained in part (a), these answers should be credited.

Level	Out of 10 marks	Descriptors
Level 3	8-10	Displays full slew of skills across AO1, AO2 and AO3: <ul style="list-style-type: none"> Balanced answer on the unintended consequences of policies to deal with market failure Considers at least 2 policies and a total of 3 unintended consequences Clear and coherent analysis, grounded by economic concepts, frameworks and principles Good use of examples related to medical drugs
Level 2	5-7	Displays AO1 and AO2 skills: <ul style="list-style-type: none"> Balanced but under developed answer There is clarification of question and application of economic concepts, frameworks and principles to relevant contexts Limited use of examples Answers that do not explain how the policy works will be capped at 6m 1 policy with at least 2 unintended consequences : 5m
Level 1	1-4	Uneven display of AO1 and AO2 skills: <ul style="list-style-type: none"> Does not address the question Smattering of points or conceptual errors

JC2 Preliminary Examinations 2018
H2 Economics Paper 2 – Essay

- 4 Many economists argue that managing rising price pressures is the single most important macroeconomic objective for governments.**
- (a) Explain possible causes of rising price pressures of goods and services in an open economy. [10]
- (b) Discuss the extent to which a government's policy decisions to manage rising price pressures are affected by the degree in which its economy is open. [15]

Part (a): Explain possible causes of rising price pressures of goods and services in an open economy. [10]

Question Dissection

Command Word	Explain
Question Type	Explanation
Concept(s)	<ul style="list-style-type: none"> • Meaning of an open economy • Causes of inflation in an open economy <ul style="list-style-type: none"> ◦ Cost-push inflation ◦ Demand-pull inflation
End Point	To explain at least 2 causes of inflation specifically in the context of an open economy.
Context	Any country, though reference can be made to Singapore's context

Suggested Answers

(I) Introduction

An open economy refers to an economy that interacts freely with other economies around the world. Economic openness can be measured as openness and reliance of an economy to trade, foreign investment, labour and capital flows. Singapore is one such open economy where its external demand constitutes a large percentage (about 300%) of its GDP and FDI is about 70 % of its total investments. Due to the constraints of a small population size with a lack of natural resources, the Singapore economy has to be open which means that it is heavily reliant on exports and FDI to drive its economic growth.

When an economy is faced with rising price pressures on good and services, it suggests that the economy is facing an Inflationary situation. Inflation is defined as a sustained rise in the general price level of a given basket of goods and services in an economy over time, usually a year. Hence rising price pressures (or inflation) can be caused by a persistent rise in aggregate demand (AD) or due to a persistent fall in aggregate supply (AS).

Being open means that the main types of rising price pressures of goods and services is often that of import-price-push inflation and external demand-led demand pull inflation.

(II) Body

(1) Cost-push Inflation

Being open makes an economy most vulnerable to external supply shocks such as increase in the price of imported oil and other raw materials caused by strong demand from China and other emerging economies , higher prices of imported food due to bad weather, and higher foreign inflation. Singapore's lack of natural resources implies a heavy reliance on imported raw materials and necessities for both the production of goods and services, as well as for consumption respectively. As such open economies such as Singapore are extremely susceptible to rising prices pf imported goods and services. An example is how Singapore's inflation rate rose to 6.6% in 2008, three times the inflation rate in 2007. This was because of rising food prices in our neighbouring countries, coupled with sharp increases in global oil prices that year.

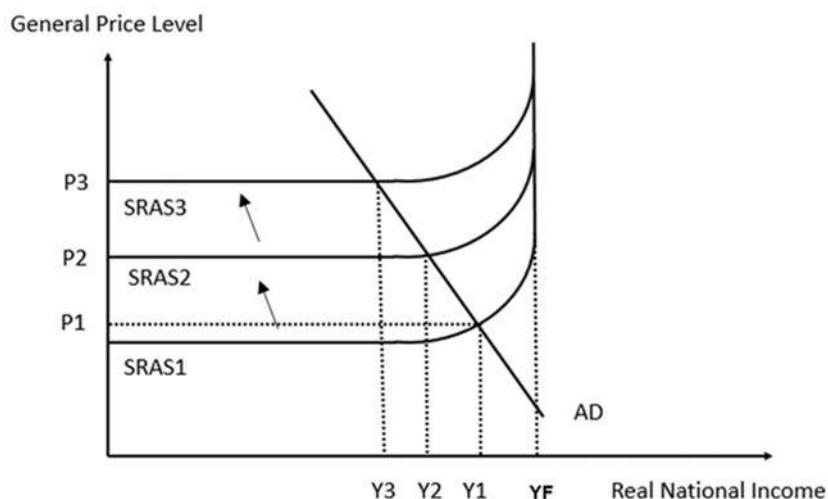


Figure 1: Cost-push inflation (from imported inflation)

As a result of higher cost of production due to higher import prices, ceteris paribus, profits fall and producers cut back on production, causing the the SRAS₁ curve to shift upwards (i.e. to the left) to SRAS₂., This results in shortages and causes an upward pressure on prices thereby resulting in a higher general price level, P₂ and a lower equilibrium national output at Y₂. If there are further increases in costs of production, and firms pass on the higher costs to consumers in the form of higher prices, SRAS will then fall further from SRAS₂ to SRAS₃, causing the general price level to rise to P₃ and the level of national output to fall to Y₃.

Hence, with higher prices of imported final products as well as through higher cost of imported inputs which raise cost of production, this will cause rising domestic price pressures of goods and services in an open economy such as Singapore.

(2) Demand-pull Inflation

Being open, an economy is also very prone to demand pull inflation, especially when there is strong growth of its trading partners. For an open economy like Singapore, strong growth of its trading partners such as China means there is a rise in real national income of such countries. This rise in foreign purchasing power from these countries will cause a more than proportionate increase in the demand for Singapore's exports, since Singapore exports mainly goods whose demand is income elastic for instance electronics and high-end pharmaceutical products. This

leads to a rise in Singapore's total export revenue. Assuming total expenditure on imports remaining constant, there is a rise in $(X-M)$.

Strong growth of its trading partners also boost both firms' profitability as well as business confidence. Assuming that these foreign firms are equally confident in an open economy such as Singapore, a rise in their expected profitability will increase their Marginal Efficiency of Investment (MEI), thereby making them invest in Singapore. In other words, foreign direct investment (FDI) in Singapore rises.

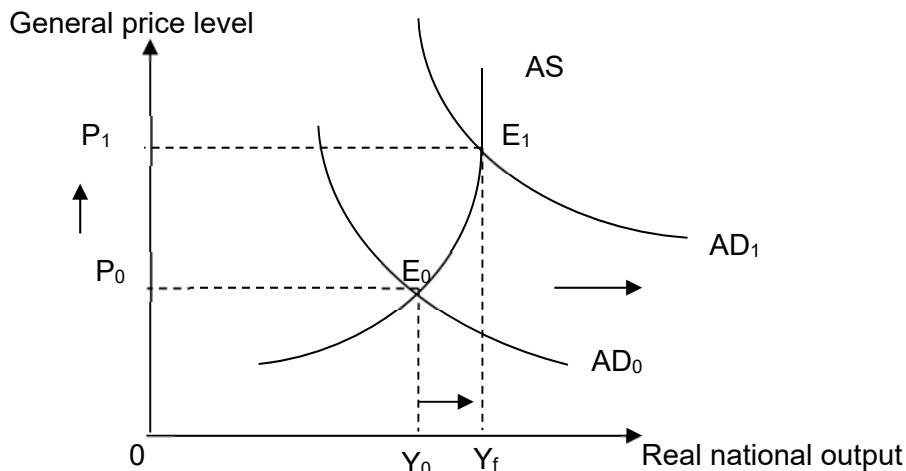


Figure 2: Demand-Pull Inflation

Ceteris paribus, AD increases sharply due to an increase in FDI and net exports which is a large component of AD. This is shown by a rightward shift of AD curve from AD_0 to AD_1 . Assuming the country is operating near full employment, there will be a shortage of final goods and services which exerts upward pressure on GPL. GPL continues to rise until shortage is eliminated. The persistent increase in the general price level services from P_0 to P_1 depicts demand-pull inflation.

Hence, in an open economy, external factors such as strong growth and thus rising affluence of its trading partners would be one of the main causes of demand-pull inflation, hence accounting for the significant impact on rising price pressures of goods and services.

(III) Conclusion

A very open economy like Singapore which is resource-scarce and import-reliant given her small domestic market, external factors such as imported inflation (cost-push inflation) and rising affluence of its trading partner (demand-pull inflation) would be the main causes of inflation in the domestic economy. Moreover, both demand-pull and cost-push inflation can reinforce each other to bring about a greater rise in price pressures of goods and services in an open economy.

Level	Knowledge, Application / Understanding and Analysis	Marks
L 3	<p>For an answer that gives a detailed and analytic explanation using AD-AS model on the causes of rising price pressures of goods and services in an open economy</p> <p>Well-elaborated analysis would include the use of AD-AS model to explain the demand-pull and cost-push inflation and relevant examples of an open economy. is required, with clear reference made to the diagrams.</p>	8 – 10
L 2	<p>For an answer that gives a descriptive explanation on the causes of rising price pressures of goods and services in an open economy</p> <p>Some gaps are evident in some of the analysis and explanation may only focus on one cause of inflation (max 5 marks)</p>	5 – 7
L 1	<p>For an answer that shows some basic knowledge of the possible causes of rising price pressures of goods and services in an open economy</p> <p>Limited application of economic analysis</p>	1 – 4

Part (b): Discuss the extent to which a government's policy decisions to manage rising price pressures are affected by the degree in which its economy is open. [15]

Question Dissection

Command Word	Discuss
Question Type	Explain, elaborate and give a reasoned opinion, of which an evaluative conclusion is expected
Concept(s)	<ul style="list-style-type: none"> • Meaning of an open economy • Sources of Inflation • Policies to tackle sources of inflation
End Point	<p>To consider various factors (including openness of an economy) and its relative importance in influencing the choice of policy decision to manage rising price pressures is based</p> <ul style="list-style-type: none"> • Thesis: Openness of economy can influence the choice of policy decision • Anti-thesis: Other factors besides openness of economy
Context	Any country, though reference can be made to the Singapore's context, where applicable.

Suggested Answers

(I) Introduction

Implementing policies to manage rising price pressures in order to attain a low and stable inflation is especially essential for an open economy. This is because low and stable inflation could promote business investment, employment, and sustained economic growth. Besides increasing the export competitiveness which is a crucial avenue to generate income and employment for the economy, an environment of low and stable inflation attracts FDI. Hence

price stability is a pre-requisite before exports demand and FDI can serve as growth engines for an open economy.

To manage rising price pressures, the degree in which an economy is open does influence a government's choice of policies, although there are also other factors that policy makers must consider when deciding on policy choice.

(II) Body

Thesis: Openness does influence a government's choice of policies to manage rising prices.

(1) Use of Exchange Rate Policy to tackle Root Causes of rising price pressures in an open economy

As explained earlier, being open makes an economy susceptible to both cost-push inflation (caused by rising import prices) and demand-pull inflation (caused by excessive increase in export demand by foreigners) from external causes. To tackle such cost-push inflation, open economies like Singapore use monetary policy (MP) centred on exchange rates. By adopting a slow and gradual appreciation of the Singapore dollar (SGD), this lowers the prices of imported final goods & services in domestic currency. This fall in price of imported final good and services has a direct effect in bringing import price-push inflation rate down. In addition, as such economies are heavily reliant on imports for raw materials, the stronger SGD Singapore dollar also lowers the prices of imported inputs and raw materials in domestic currency, which will in turn lower firms' cost of production. Ceteris paribus, this increases profits and assuming firms pass on the cost savings to consumers, firms increase production, leading to a rightward shift of the AS curve and hence lowering the equilibrium general price level in the economy. This corrects the cost-push inflation that is caused by import price-push inflation.

To tackle demand-pull inflation caused by excessive growth of AD, an appreciation of the exchange rate would cause export (X) prices in foreign currency to rise, leading to a fall in the quantity demanded of exports. At the same time, import (M) prices will fall in domestic currency, leading to a rise in quantity demanded of imports. Assuming that the sum of price elasticity of demand for the country's exports and imports is greater than one or that the Marshall-Lerner condition is met, the currency appreciation will lead to a fall in Singapore's net exports. This will reduce AD and cause a fall in the equilibrium general price level, hence reducing demand-pull inflation caused by large increase in demand for exports in a situation where the economy is near full employment.

Hence 'openness' of an economy would play a significant role in influencing government's choice of policy to manage rising price pressures. For countries like Singapore (extremely open) where exports revenue and imports expenditure is more than 300% of its GDP, using monetary policy centred on exchange rates to attain price stability is more strategic in effectively targeting the root causes of rising price pressures in an open economy.

(2) Being open to capital flow may limit effectiveness of the use of interest-rate centred MP

An open economy also suggests being open to capital flow from FDI which increases AD. As such, contractionary monetary policy centred on interest rates can also be used to reduce AD and curb demand-pull inflation. The government reduces the money supply to bring down the rate of inflation. When money supply falls, interest rates will increase, leading to an increase in the cost of borrowing. This will discourage investment and consumption expenditures due

to the higher cost of borrowing. Thus the level of aggregate demand falls, and the resulting surpluses would drive down the general price level, hence curbing demand-pull inflation.

If an open economy is the result of constraints faced by the country for instance, its small domestic market and the lack of availability of resources, then contractionary monetary policy centred on interest rates may not be effective for such a small and therefore open economy, as in the case of Singapore. Singapore is unable to control interest rate through money supply, and is unable to control both interest rate and exchange rate at the same time. Being small and therefore open, Singapore is dependent on and experiences free financial capital mobility in and out of Singapore. There is essentially lack of control over the domestic money supply and hence supply of loanable funds due to large inflow and outflow of international flows of money. Any decrease in interest rate through an increase in domestic money supply will trigger an outflow of international money supply as financial assets in Singapore yield less interest earnings for speculators. Hence, the outflow of international money supply will negate any original increase in domestic money supply, rendering interest rate-centred monetary policy ineffective. Additionally any change in interest rates may have minimal impact on FDI since foreign investors are usually interest insensitive because their decision to invest in a foreign country is based on reasons other factors such as expectations of economic growth and profitability, other than such interest rates change.

Hence the choice of monetary policy tool is influenced by the extent to which an economy is open. Given the small and therefore open nature of the Singapore economy, to manage rising price pressures so as to attain price stability, it would be more strategic for governments to use exchange rate as a monetary policy tool as opposed to the interest rate-centred monetary policy employed in large and less open economies.

[Note: this idea of limiting the effectiveness of the use of interest-rate centred MP can also be considered as an anti-thesis point, if students argue that besides the characteristics of open economy, another characteristic i.e. size of economy also influence choice of govt policy]

Anti-thesis – Other factors (other than openness of economy) that affect Spore govt policy decision to achieve low and stable inflation

(3) Other Causes of inflation besides External Factors (Supply-side Policy)

If the cause of inflation stems from domestic sources such as rising wages as a result of a tight labour market and falling labour productivity of the workers, this translates into an increase in costs of production for firms. As costs of production rises, the SRAS would fall as firms would not be able to produce as much output as previously. This would bring about an increase in general price level and a fall in real national income, leading to cost-push inflation. Hence, to tackle such cost-push inflation, ‘openness’ of an economy is a less significant factor to influence government’s policy decision to attain price stability. In this case, the government would implement policies that can increase the labour productivity of its workforce.

Assuming the government has strong fiscal budget position, it can implement supply-side policies by spending on Improving Human Capital. This could involve providing subsidies to improve education and training so as to raise workers’ productivity as well as increase their job flexibility and mobility. Government can provide educational facilities to increase accessibility to education. This ensures that sufficient training is provided and there is sufficient supply of skilled labour. For example, with the SkillsFuture initiative, the Singapore government helps workers to learn new skills which raise the average quality of the labour force. This increase in productive capacity shifts the AS curve to the right from AS₀ to AS₁, reducing general price level from P₀ to P₁, hence mitigating the cost push inflation.

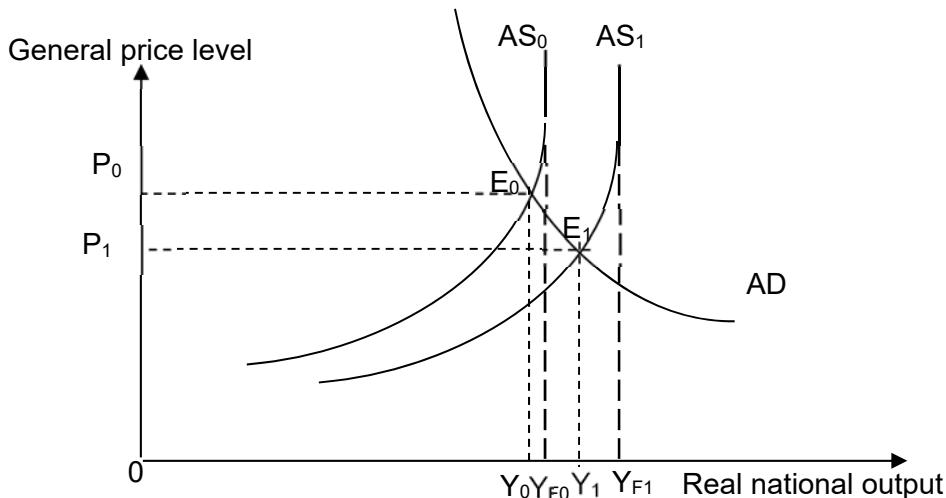


Figure 3: Effects of Supply-side Policies

Moreover, better trained workers can also help to develop and produce higher quality products, increasing demand and revenue. Hence, such initiatives have the unintended consequences of helping to create productive employment opportunities. From the diagram above, the increase in real national output from Y_0 to Y_1 would lead to a rise in the derived demand for labour. Hence, unemployment falls. This can help improve the income of lower income families, and hence narrow the income inequality which is a growing concern in Singapore.

(*Note to Markers: Although SS-side policies are preferred since NY can still grow while reducing GPL, the use of contractionary FP is also possible. Hence, the other consideration will be the govt's ability to reduce G esp on infrastructural projects and public and merit goods which are likely urgent. However, if student talks about the size of k which depends on MPS, MPT and MPM, it is not as relevant since size of k will impact the extent of NY fall, rather than the extent of GPL fall.*)

(4) Possibility of High Opportunity Cost Incurred

While supply-side policy policies is useful to curb cost-push inflation caused by domestic factors, the government would also need to consider the possibility of budget constraint faced when adopting supply-side policy to achieve price stability. The cost of providing or subsidising training can impose a burden on the government budget, as it requires huge sums of funding. This can reduce budget surplus, or increase budget deficit depending on the government's budget position. There is also opportunity cost associated with funding training and education, which is money which could be spent on other social sectors such as healthcare and/or on infrastructure, hence sacrificing government spending in other areas that could help improve the country's standard of living.

As such, faced with potentially high opportunity costs of a policy, policy makers will then have to make a judgement on whether these costs (including opportunity cost) can be managed, and if not, the possibilities of adopting other policies to attain price stability instead. Hence in this case, especially for countries facing a lack of budget reserves, policy makers would consider beyond openness of economy to decide on choice of policy to manage rising price pressures.

(5) Potential Conflict in Policy Objectives

For an open economy such as Singapore, although a strong Singapore dollar may be effective in maintaining a low rate of inflation, yet we have to be aware that the appreciation of currency comes at the costs of eroding our export competitiveness. The stronger Sing dollar would unfortunately cause the prices of exports in foreign currency terms to become more expensive. Since demand for exports tend to be price elastic due the presence of diverse substitutes, the rise in prices of Singapore's exports would lead to a more than proportionate decrease in quantity of exports demanded, undermining our export revenue. This would result in a worsening of current account and therefore balance of payment, and more importantly, an undesired contractionary effect on real national output and hence, economic growth and employment of the economy as next exports falls. Thus in the short run, the government may face with the problem of achieving lower inflation at the expense of increased unemployment and unfavourable balance of payments position. Hence to manage rising price pressure and attain price stability, the government might need to implement complementary policies to mitigate the potential conflicts with other macroeconomic objectives that could arise from an appreciating exchange rate.

(III) Evaluation

Openness of an economy could, to a large extent, influence a government's policy decisions to manage rising price pressures so as to attain price stability. Appreciating exchange rate, despite its limitations has been a major and effective policy in curbing imported inflation in a very open economy such as Singapore.

Although it is an important consideration, there are other factors that the government needs to take into consideration for sound policy decisions. Of particular importance would be the root cause of rising price pressures. This is particularly applicable for a very open economy such as Singapore where the nature of inflation has morphed over the years with internal factors becoming increasingly significant contributors, given an increasingly ageing population and the situation made worse off as in 2011, the government introduced policies to further restrict the foreign labour inflow into its shore. Exchange rate policy should be used together with policies like supply side policies to improve labour productivity and export competitiveness so as to manage rising price pressures in the economy. Additionally regardless of the degree of openness of an economy, there are often multiple sources of inflation and thus governments should employ a mix of policies that are appropriate to the respective sources of inflation, in order to solve the problem effectively and at the same time minimise any other undesirable conflicts in policy objectives that may come along.

All these factors are important for government's consideration in their policy decisions to manage rising price pressure, and policy decisions are not made based only on a single factor i.e. openness of an economy.

Level	Knowledge, Application / Understanding and Analysis	Marks
L3	For an answer that has depth to the explanation for the choice of policy decision to manage rising price pressures. A good explanation of at least 2 policy decisions, one that is based on openness of economy and another on 2 other factors that could influence policy decisions plus a descriptive explanation of a third policy decision.	8-10
L2	For an answer giving largely descriptive explanation of the policy decisions and the reasons for their choice or a largely descriptive explanation that is skewed towards either the thesis or anti-thesis of the question	5-7
L1	For an answer that shows knowledge of the policy decisions and/or unexplained reasons for their choice.	1-4
E3	For an answer that arrives at an analytically well-reasoned judgement on the relative importance of the openness of an economy and other factors in influencing choice of policies to manage rising price pressures	4-5
E2	For an answer that makes some attempt at a judgement that is elaborated with relevance to the question	2-3
E1	For an answer that gives an unsupported evaluative stance which attempts to respond to the question	1

- 5 (a) Explain how a country's circular flow of income could be affected by its trading partners' pro-trade policy. [10]
- (b) Discuss whether an increasing balance of payments surplus is necessarily desirable for a country. [15]
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Part (a): Explain how a country's circular flow of income could be affected by its trading partners' pro-trade policy. [10]

Question Dissection

Command Word	Explain
Question Type	Explanation
Concept(s)	<ul style="list-style-type: none"> • Circular flow of Income • Workings of the Multiplier Process
End Point	<p>To explain how increase in injection via an increase in export expenditure (due to pro-trade policy adopted by a country's trading partner) into the circular flow of Income can lead to a multiplied increase in the country's national income</p> <p>OR Students can alternatively interpret as a rise in X and M but M rising more than X and hence a rise in W → reverse k process.</p>
Context	Any country

Suggested Answers

(I) Introduction

When a country's trading partner adopts a pro-trade policy, this suggests that free trade is promoted where buyers and sellers from different economies may voluntarily trade without a government applying tariffs, quotas, subsidies or prohibitions on goods and services. This may facilitate the increase in the demand for the country's exports, hence increasing its export revenue. Assuming that import expenditure remains unchanged, the increase in the country's export revenue will lead to an injection into a country's circular flow of income, which will then lead to a multiplied increase in the country's national income.

[Note: students can also explain that pro-trade policy of trading partners can encourage an increase in import expenditure of the country. Assuming that increase in export revenue is greater than import expenditure, this will lead to an increase in injection into the country's circular flow of income]

(II) Body

(1) Describe the circular flow of income model

The circular flow of Income shows the flow of goods & services and their payment around the economy. It illustrates the relationship between various economic units and how the economy arrives at an equilibrium level of output, income and expenditure

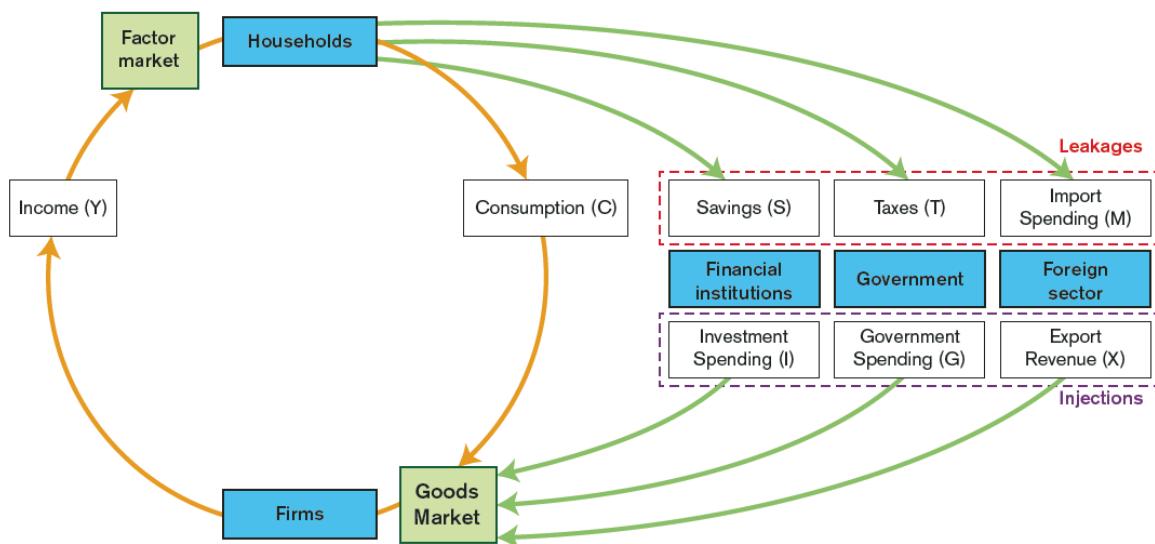


Figure 1: The Circular Flow of Income Model

To produce a country's final goods and services, firms pay income to households for the use of factors services i.e. labour services, land, capital and entrepreneurship-ability owned by households. Households will then use their factor income to buy domestically produced consumer goods and services.

However, in a 4-sector economy, not all income earned by households is spent on domestically produced goods and services and passed back to firms. Some of the income may leak out of the circular flow of income in the form of savings, taxes paid to the government and expenditure on imported goods. These make up the withdrawal from the circular flow of income. Withdrawals (W) or leakages from the circular flow refer to household income that is not spent on domestically produced goods and services. Additionally, only part of the demand for firms' output arises from household expenditure. Expenditure on domestically produced goods and services is also made up by firms, government and the foreign sector in the form of injections. Injections (J) or additions into the circular flow of income refer to the income received by domestic firms that do not arise from domestic household consumption. These include the investment expenditure (I), government expenditure (G) and export expenditure (X).

In an 4-sector economy, equilibrium national income is achieved when total withdrawals equals total injections i.e. W (i.e. $S+T+M$) = J (i.e. $I+G+X$). At the equilibrium level of national income, current spending also equals current national output. Hence, there is no depletion of inventories or accumulation of inventories and firms have no incentive to increase or reduce production.

(2) Explain how rise in export expenditure (X) as an injection leads to a multiplied increase in national income through the workings of the multiplier process.

With the pro-trade policy adopted by a country's trading partner, this can lead to an increase in the country's export expenditure. This in turn represents an increase in injection such that total injections now exceed total withdrawals and the economy is now in disequilibrium. As $J > W$, there will be a depletion of the inventories. Hence firm will step up production in the next period which translate into hiring more labour which is a derived demand for producing the goods and services. Firms will pay out more factor income which increases the national income and induce more consumption.

Assuming a 4-sector economy with excess capacity, an injection or autonomous increase in exports expenditure of \$100 million will generate an initial increase in income of \$100 million for

households employed by firms. These households will spend a proportion of the additional income on consumption of \$50 million, depending on the size of their marginal propensity to consume (assume MPC 0.5), while the rest (i.e. \$50 million) is leaked away as additional savings, taxes or particularly imports spending given that there is free-trade promoted between the trading countries and hence the country will be more incentivized to increase its expenditure in imports.

Since one person's spending creates another person's income and income stimulates further spending, this rise in consumption on domestically produced goods of \$50m creates income for another group of people who supply the consumer goods. They will in turn increase induced consumption based on their MPC (which equals \$25 million in this example) while the rest constitutes further leakages (of another \$25 million here).

This cycle of spending and re-spending will continue until the total increase in leakages (i.e. 100 million here) equals to the initial injection (i.e. \$100 million here) into the circular flow of income. The multiplier process eventually stops because of the presence of leakages. The increase in induced consumption is smaller with each successive round as part of increase in income is leaked out in the form of $S + T + M$.

The eventual increase in national income is several times the initial increase in injections. In this numerical example, it will rise by \$200 million. The multiplier, k , represents how many times the national income increase with respect to the initial injection. In this numerical example, multiplier = $1/MPW$ or $(1-MPC) = 2$.

(III) Conclusion

Hence, with a pro-trade policy adopted by a country's trading partner, it can enable the country to enjoy a multiplied increase in its national income. The extent of the increase in its national income is dependent on the size of the multiplier which is in turn dependent on the proportion of leakages (MPW) or the proportion of induced consumption (MPC). Therefore, the smaller the value of MPW or higher the value of MPC, the greater the size of the multiplier, and that would mean a greater multiple increase in a country's real national income.

In this case, since the marginal propensity to import may increase due to the pro-trade policy advocated by the country's trading partners, the size of the multiplier is expected to be smaller and hence the leading to a smaller increase in real national income.

Note: Candidates could alternatively provide the explanation for which the rise in M exceeds the rise in X for the domestic country due to the partner's pro-trade position.

Level	Knowledge, Application / Understanding and Analysis	Marks
L 3	For a well-analysed and reasoned answer on how an increase in export expenditure due to trading partner's pro-trade policy can lead to a multiplied increase in national income through the multiplier process taking effect within the circular flow of income. The circular flow of income diagram is required, with clear reference made to the diagram.	8 – 10
L 2	For an answer that gives a descriptive explanation to explain how an increase in export expenditure can lead to a multiplied increase in national income. Insufficient depth in analysis, missing out certain components or processes within the circular flow of income. .	5 – 7

L 1	For an answer that shows some basic but largely inaccurate knowledge of the circular flow of income.	1 – 4
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Part (b): Discuss whether an increasing balance of payments surplus is necessarily desirable for a country. [15]

Question Dissection

Command Word	Discuss –
Question Type	Explain, elaborate and give a reasoned opinion, of which an evaluative conclusion is expected
Concept(s)	<ul style="list-style-type: none"> • Meaning of BOP surplus • Impact on macroeconomic goals
End Point	To arrive at a conclusion on whether an increasing BOP surplus is necessarily desirable for a country in terms of its impact on the macroeconomic objectives, and taking into consideration the nature and state of the economy.
Context	Any country

(I) Introduction

Define BOP and BOP surplus

The Balance of payments (BOP) of a country is a statement of receipts for all economic transactions between residents of a country with the rest of the world over a period of time, usually a year. A balance of payments surplus may occur as a result of net inflow from either the current account (CA) or capital and financial account (CFA) or both. The desirability of an increasing BOP surplus hinges on its impact on achieving the country's other macroeconomic goals; namely that of attaining economic growth, full employment and price stability.

(II) Body

Thesis: BOP surplus is desirable

(1) Increase in economic growth and employment level

A balance of payments surplus can have an expansionary effect on the economy if it is due to an increase in current account surplus and a capital and financial account surplus

A rise in current account surplus could be due to a rise in a country's exports price competitiveness which would lead to a rise in its export earnings. If import expenditure is assumed to remain unchanged, this can lead to an increase in a country's net exports, thus causing an increase in the level of aggregate demand. Assuming that the economy has spare capacity, the excess AD at the original general price level creates a shortage of goods and services produced, causing an unplanned fall in inventories. This will create an upward pressure on prices, and prompt firms to increase production which increases income. The rise in income further induces an increase in consumption resulting in further expansion of output and hence a multiplied increase in national income via the multiplier process. Hence the economy reaches a new equilibrium with higher real national income (from Y_0 to Y_f). A rise in households' purchasing power suggests that the material standard of living in the country has improved. Furthermore, since labour is a derived demand, firms hire more workers since more output is produced. Hence, this can help boost the employment level in the country. For a small and open economy like Singapore, while the multiplier value is small due to the high leakages from the circular flow of income via the high MPS and MPM, the impact of an increasing BOP surplus on the increase in real national income is more significant because net export constitutes a large percentage of the aggregate demand, as opposed to countries with large domestic markets to drive their economic growth instead

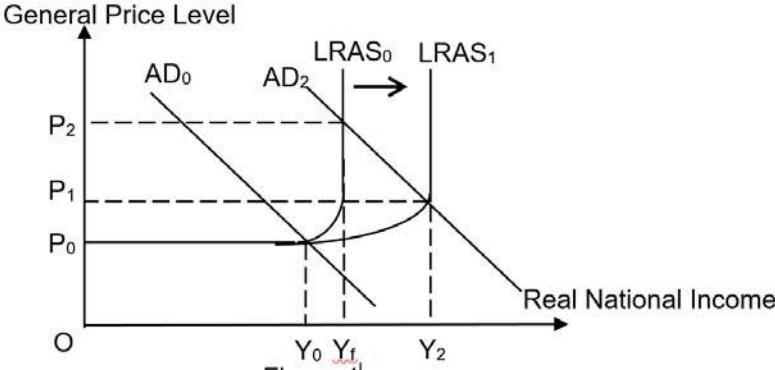


Figure 2: Effects of a rise in current account and capital and financial account surplus

Additionally, a rising capital and financial account surplus can be due to a rising net inflow from foreign direct investment. This could arise from the increased business confidence and expectations which can translate into higher expected returns to investment, hence encouraging long term investment into the country. With a rise in FDI, it can lead to both an increase in AD to AD₂ and AS to AS₂ in the economy. This can lead to an increase in both actual and potential growth of the surplus country, resulting in greater actual and potential economic growth. Hence sustained growth can be achieved, as represented by an increase in real GDP from Y₀ to Y₂. Hence an increasing BOP surplus is especially desirable for countries that are highly dependent on FDI as a significant driver of growth.

(2) Reduce imported inflation

A persistent balance of payments surplus will lead to a rise in demand for the country's currency hence resulting in an appreciation of the country's currency. This can help to lower the prices of imports which may then rein in import price-push inflation and is especially desirable for countries such as Singapore that is heavily dependent on imports of foodstuffs for consumption and raw materials for production. Firms experiencing lower costs of production due lower imported prices will be faced with higher profits, *ceteris paribus*. If they pass on the lower cost of production to the consumers in terms of lower prices, this can lead to a fall in cost of living and a rise in the standard of living in the country.

(3) Boost foreign reserves

With an increasing BOP surplus, the country can experience a rise in its foreign exchange reserves. This is because foreigners would have to buy the country's currency to pay for the country's exports or to invest in the country. Such accumulation of foreign reserves would give the surplus country the ability to intervene in foreign exchange market in times of a BOP deficit. This is desirable, particularly for countries that operate on a managed float system because the accumulated foreign reserves would allow the country to intervene and manage its exchange rate where the need arises to ensure stability not only in the external sector but also create confidence in the strength of the country's currency which may then discourage speculative attacks on its currency. Hence an increasing BOP surplus which leads to accumulation of foreign exchange reserves and the eventual stability of currency is especially crucial for countries like small and open economy like Singapore that is highly dependent on trade and FDI to drive its economic growth.

Anti-thesis: BOP surplus is not desirable

While a BOP surplus is often considered as a symbol of national economic success, a persistent and excessive BOP surplus can cause problems to an economy.

(1) Demand-pull inflation

An increasing BOP surplus contributed by a large rise in export revenue or FDI would increase AD. If the economy is operating near full employment, this has the potential of overheating the economy

and cause demand-pull inflation. For countries that have been experiencing low unemployment rates for instance Singapore where the rate of unemployment has been hovering around 2% since 2010, this suggests that the economy is operating at or near full employment, hence increasing BOP surplus might hence not be desirable due to the inflationary pressure that could result from net inflows in the CA or CFA, hence negatively affecting its internal stability.

(2) Fall in SOL

Fall in Current SOL. If the increasing BOP surplus is a result of positive net X which can be due to less imports consumed, this can compromise on the country's material SOL in the current period as households are forgoing current consumption of imported goods and services.

Fall in Future SOL due to a future deficit in the current account. If the BOP surplus is due to excessive foreign investment in the country, then this may result in a deficit in the current account in the future when payments in the form of investment income are paid abroad to foreigners. Such a leakage of investment income in the future will lower the standard of living of future generations.

(3) Retaliation which slows down surplus country's growth

Given that one country's surplus is another country's deficit, this may lead to countries with a BOP deficit retaliating by imposing import controls or other forms of protectionist measures, especially if the other countries feel the surplus is a result of an undervalued exchange rate that has directly caused less output and jobs in deficit countries. Such measures reduce the exports of the country facing an increasing BOP surplus, which can lead to a contractionary effect on its economy. Additionally, it could lead to a strain in international trading relationships. A case in point is the recent trade war between USA and China. China had a record US\$375.2 billion (S\$494 billion) goods surplus with the US in 2017 and this has led to retaliatory actions by the US government with a slew of tariffs imposed on China's exports which could slow down China's economic growth as a fall in China's export revenue could result in a fall in AD and hence a contractionary impact on China's economy, in terms of fall in its production, national income, economic growth and extensive job losses.

(III) Conclusion

Whether an increasing BOP surplus is desirable for an economy is dependent on the nature of the economy. For a small and open economy like Singapore that is highly export-oriented and import-dependent, having a healthy and increasing BOP surplus is essential to drive the economic performance of the country due to the relative importance of her large external sector where her external demand is 75% of total demand. Additionally, an increasing BOP surplus is a good position to be in as it reflects confidence in the economy. This can further attract FDI into the country which can further fuel sustained economic growth in the country.

Additionally, the state of the economy matters too. If the productive capacity of a country is unable to keep up with the increasing AD that can result from an increasing BOP surplus, as in the case of Singapore given that the economy is near full employment, the rising inflation may eventually discourage FDIs to our shore, hence compromising on the country's actual and potential growth. Hence, to mitigate the rising inflation that could result from an increasing BOP surplus, the government could adopt relevant policies to expand its productive capacity so as to reap the benefits of an increasing BOP surplus on its economy.

Level	Knowledge, Application / Understanding and Analysis	Marks
L3	<p>For an answer using detailed analysis and clear explanation of both positive and negative consequences of an increasing BOP surplus, and taking into consideration both the current and capital and financial account position</p> <p>In considering the extent of the impact of the desirability of an increasing BOP surplus, references were made to the context of different economies</p>	8-10
L2	For an answer giving largely descriptive explanation of the positive and negative consequences of an increasing BOP surplus, with some considerations of the current and capital and financial account position	5-7
L1	For an answer that shows knowledge of the consequences of an increasing BOP surplus on an economy; or limited scope of coverage i.e. considered only either current or capital and financial account position.	1-4
E3	For an answer that arrives at an analytically well-reasoned judgment based on some criteria to determine whether an increasing BOP surplus is desirable for an economy.	4-5
E2	For an answer that makes some attempt at a judgement that is elaborated with relevance to the question.	2-3
E1	For an answer that gives an unsupported evaluative stance which attempts to respond to the question	1

EQ6

The Singapore economy is likely to see modest growth over the coming quarters, with GDP projected to expand by 1% to 3% for 2016. This is coupled with growing income inequality. With US adopting protectionism and its growth slipping further, global trade activities will continue to dampen.

Discuss the relative effectiveness of an exchange rate policy and supply-side policies in addressing the above challenges. [25]

Intro:

From the preamble above, Singapore is set to face a series of challenges such as slow growth, worsening of its balance of payments as well as non-inclusive growth. This is due to the dampening of global trade activities caused by the US' adoption of protectionism and fall in its growth. Therefore, the Singapore government will have to implement a string of policies such as exchange rate and supply-side policies to tackle the problem.

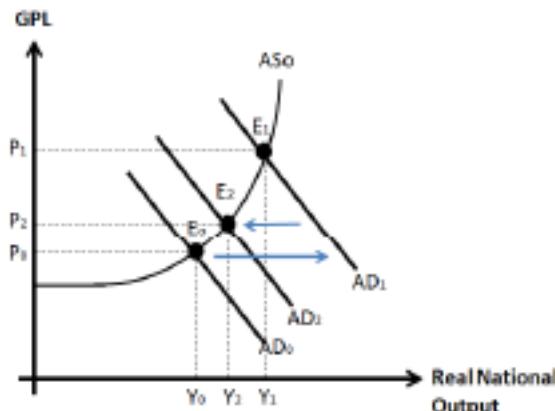
Body:

P1: Establishing the context and hence key issues facing Singapore i.e. The adoption of protectionism by US and its falling growth will pose some challenges to Singapore's economy.

The fall in growth rates in the US will result in a fall in demand for goods and services exported by its trading partners such as Singapore. With growth slipping further, consumers in the US will be less likely to purchase as many goods and services from Singapore due to a fall in consumers' confidence. This fall in demand for Singapore's exports will result in a fall in both its price and quantity causing total revenue from exports to fall.

In order to protect its domestic industries and prevent its growth from slipping further, the US government has adopted protectionist measures such as that of a tariff on foreign goods. Such a measure will lead to a rise in price in Singapore's exports into the US causing a more than proportionate fall in quantity demanded assuming the price elasticity of demand for Singapore's exports is price elastic due to the availability of substitutes in the US. This will again lead to a fall in Singapore's export revenue.

This fall in export revenue will cause aggregate demand (AD) to fall. This fall in AD (from AD₁ to AD₂) will counteract the rise in AD (from AD₀ to AD₁) caused by the other components such as domestic consumption, government expenditure and investment expenditure. This results in slow growth from Y₀ to Y₂ instead of Y₀ to Y₁.



The initial fall in injection (X) will lead to a corresponding initial decrease in national income. Consequently, this fall in incomes will lead to a fall in induced consumption and a fall in withdrawals (in the form of savings, taxes and import expenditure). The amount of fall in induced consumption is determined by the value of marginal propensity to consume. The higher the value of MPC, the greater is the fall in induced consumption and hence the larger is the fall in national income. The multiplier process continues until the initial fall in injections is equal to the total fall in withdrawals.

Hence, the economy reaches a new equilibrium national income at a lower level than Y_1 which resulted in a slowdown in economic growth, assuming the economy is not nearing full employment. With only a smaller rise in incomes, the Singapore government is not able to collect significantly higher amount of taxes that could have given it the greater ability and leeway to embark on infrastructural and social spending that could have benefited the citizens in a more pronounced manner.

This fall in export revenue could also result in a fall in inflow of export receipts into Singapore. This will worsen the current account which in turn worsens the balance of payments of Singapore. If Singapore's balance of payments were to experience a deficit, it may have to be financed by foreign borrowing (both private and government). The country's foreign long-term debt will increase. The money borrowed has to be repaid sometime in the future with interest, which lowers the standard of living of future generations.

P2: The growing income inequality will pose some challenges to Singapore.

Economic growth should also be inclusive so that the rate of growth is not only sustained over a period of time, but also broad-based across economic sectors and creates productive employment opportunities for the majority of the country's population. It involves an equitable distribution of income, to ensure that the benefits from economic growth are enjoyed by the majority, instead of being reaped only by a few. The growing income inequality might be caused by the fall in wages for low skilled labour.

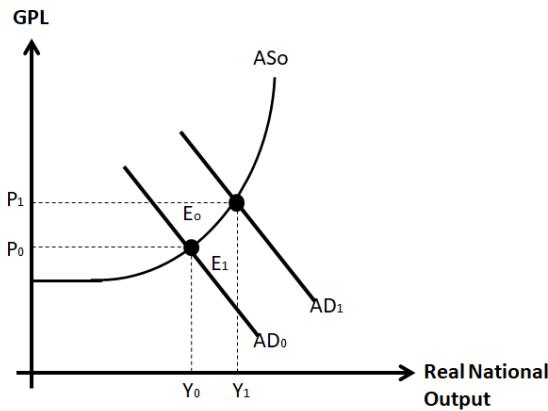
As Singapore transit to a more knowledge-based economy, the demand for high skilled labour will increase while demand for low skilled labour falls due to outsourcing of low skilled production to other countries such as Vietnam and Cambodia. The change demand will result in a fall in wages for low skilled labour and a rise in demand for high skilled labour causing a more inequitable distribution of income.

From the social point of view, this is undesirable as it causes factions of citizens to be marginalised and left unable to cope with meeting their basic needs as they are unable to purchase essential goods and gain access to merit goods such as healthcare and education.

P3: Exchange rate policy of Zero Appreciation

In order to address the mentioned challenges, the Singapore government may choose to change its exchange rate policy from gradual modest appreciation to a zero appreciation one like it did during the 2008 subprime crisis. This is done through skilful manipulation of currencies while maintaining zero NEER – depreciate against currencies of countries that it sells exports to and to appreciate against currencies of countries that it buys imports from. By flattening the band to allow more room for the Singapore dollar to depreciate, the price of Singapore's exports will fall in foreign currency resulting in a rise in quantity demanded for Singapore's exports. At the same time, the price of imports in Singapore dollars will increase resulting in a fall in quantity demanded.

The demand for Singapore's exports is price elastic, to the availability of many close substitutes from other countries. Being a small country that lacks natural resources, Singapore is heavily reliant on imports resulting in the PED of its imports to be price inelastic. However, assuming that the sum of PED for exports and imports is more than one, depreciation in the Singapore dollars will lead to a rise in net export revenue due to the Marshall Learner Condition.



This rise in net export revenue will result in a rise in AD causing it to shift from AD_0 to AD_1 . This rise in AD will then result in multiple increase in national income via the multiplier process causing national income to rise from Y_0 to Y_1 assuming that the Singapore economy is not operating at the full level of employment. Thus there will be a rise in economic growth rates. Furthermore, the rise in inflow of receipts due to the rise in net export revenue could also improve the BOP position of the economy.

With this rise in economic growth rates, the government could collect a higher amount of taxes that can be used to better redistribute income from the rich to the poor. As income increases, workers will progress to a higher income bracket, requiring them to pay a higher percentage of their income as taxes. The progressive tax system thus has redistributive effects since workers in higher income brackets will pay more taxes. This redistributive effect is compounded too when the rich buy more expensive luxury goods and thus pay more taxes even at the same goods and services tax rate. With a higher government budget due to greater amount of taxes received, the government's redistributive effect will be more significantly felt through targeted expenditure on the lower income group. Such include welfare payments and also on merit goods such as education and healthcare subsidies. This could help the government address the problem of income inequality.

Limitations:

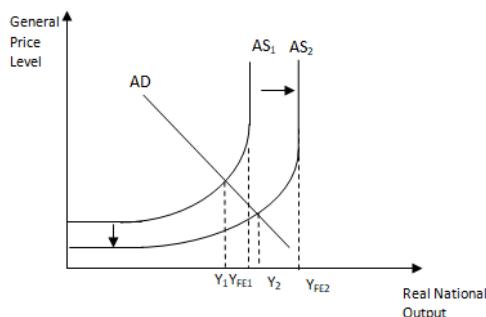
1. The rise in export revenue which is a form of injection will lead to multiple increase in national income. The extent in rise in national income is determined by the size of the multiplier. The **size of Singapore's multiplier is small**, which is due to high MPW arising from high MPS and MPM.
 - **High MPS** arises from compulsory savings through Central Provident Fund contributions where 20% of gross income is saved. In addition, households save another proportion for precautionary and other purposes. Overall, Singapore's savings as a % of GDP is 50%.
 - **High MPM** is due to Singapore's limited resources. We import virtually all final goods & services and raw materials. For every \$1 spent, 60 cents go into imports.
2. Hence exchange rate policy is not very effective to stimulate growth because with a small multiplier value, the **final rise in national income is limited**.
3. This policy however might result in imported inflation. Domestic firms that rely on imported raw materials such as crude oil and sand will face a rise in their production costs forcing them to pass on the rise in costs to consumers in the form of higher prices resulting in import price push inflation. This could mitigate or even offset the fall in prices of exports due to the depreciation of the Singapore dollar as most of Singapore's exports have got high imported content thus resulting in this policy being ineffective.

4. Furthermore this policy does not solve the root cause of the unequal distribution of income as the low skilled workers lacked the required skills and knowledge in order to achieve higher wages.

EV: Being a small country without any natural resources, Singapore is highly dependent on imported final goods and services as well as raw materials. Therefore the problem of imported inflation is severe. However this issue can be mitigated as the government could choose to only depreciate the Singapore dollars against the currencies that the nation sells its exports to. Furthermore, being a country highly dependent on external markets due to its small domestic market, it is important for Singapore to boost its export revenue in order to achieve high growth rates.

P4: Supply-side policies to improve efficiency in markets

These policies involve removing barriers to entry to make it easier or less costly for new firms to operate in the market against an existing firm or group of firms. Deregulation (e.g. removal of monopoly rights) forces firms with monopoly power to be subjected to greater competition, and incentivises them to become more efficient in production, lowering COP and increasing SRAS. In addition, encouraging competition can drive innovation as firms seek to gain a competitive edge over their rivals, and this can bring about technological advancements that shifts the LRAS to the right.



Such policy results in an increase in both SRAS and LRAS concurrently. National income Y_1 increased to Y_2 , resulting in actual growth. With better technology, the FOPs in the economy can now also produce more output. Productive capacity increases, illustrated by an increase in LRAS, Y_{F1} increases to Y_{F2} as shown in the Figure. Potential growth is achieved. Potential growth is crucial for mature economies such as Singapore as the economy might be nearing its full capacity at Y_{FE} . Any increase in AD will lead to a smaller rise in real national income along the upwards-sloping section of the AS. If LRAS does not increase, any further increase in AD will not only result in slower rate of growth, but will lead to zero growth when AD reaches the vertical section of the AS curve. This policy could therefore help boost current and future economic growth rates.

The fall in costs could also help boost Singapore's export competitiveness as firms are able to pass on the fall in costs to consumers abroad in the form of lower prices. This could lead to an increase in export revenue thus improving the current account in the BOP.

Limitation:

1. The improvement in technology could further worsen the problem of income inequality as low skilled workers are still unable to transit to the knowledge-based industries. Furthermore the change in demand for the different types of workers could further expand the wage difference of the two.

P5: Supply-side policies to improve quantity, quality and mobility of factors of production.

This could be achieved by improving human capital through education and training which will raise workers' productivity as well as increase their job flexibility and mobility. Government can provide educational facilities to increase accessibility to education. This ensures that sufficient training is provided and there is sufficient supply of skilled labour (e.g. scientists and engineers) to promote research and development. For example, with the SkillsFuture initiative, the Singapore government helps workers to learn new skills which raise the average quality of the labour force. The improvement in productivity will encourage firms to hire more workers as COP is reduced.

Better trained workers can also help to develop and produce higher quality products, increasing export demand and revenue. This could help boost export receipts and thus an improvement of the current account in the BOP.

Such initiatives also help to create productive employment opportunities and improve the income of lower income families. With the relevant skills acquired through training, these low skilled workers will be able to transit over to the knowledge-based industries and therefore command higher wages. The issue of income inequality can therefore be addressed.

Limitations:

1. **Difficult to change attitudes and mindsets:** There could be difficulty in changing people's attitudes and mindsets, particularly towards retraining or switching jobs. Workers may be unwilling to switch occupations mid-career or may be unwilling to attend training or retraining programme. This can make policies targeting improvement in productivity, such as SkillsFuture, less effective.
2. **Time lag:** Time is required for training to be completed. Furthermore in this ever changing world, the skills acquired may be deemed useless and outdated due to another round of structural changes. Therefore limiting the effectiveness of this policy.

EV: Skills upgrading and retraining is crucial for a small and open economy like Singapore. Being a country that lacks natural resources, Singapore will need to depend on its people to stay competitive in this globalised world.

Evaluation

Stand: To boost economic growth in the above-mentioned situation, the Singapore government has to adopt a mixture of both demand-management and supply-side policies. While the exchange rate policy has a significant amount of effectiveness since Singapore's economy is highly trade dependent, supply-side policies is probably the main policy to achieve inclusive growth.

Personal opinion: However, the policies will largely only help to buffer the impact and extent of the slow growth as it does not solve the root cause of the problem which is the US protectionist measures and the slipping in growth. However, the most important policy to implement is supply-side policies as it will re-position Singapore to be more ready to meet the new demands as the US economy eventually recovers and its protectionist measures lifted.

Marking Scheme

Level	Knowledge, Understanding, Application and Analysis	Marks
L3	<ul style="list-style-type: none"> Detailed analysis of the challenges faced by the Singapore government and its impacts on the Singapore economy. Detailed analysis of at least 3 measures (Exchange rate and at least 2 types of supply-side policies) as well as thorough assessment of these measures adopted by the Singapore government to address the challenges. Detailed analysis of at least 2 measures (Exchange rate and 1 type of supply-side policies) as well as thorough assessment of these measures adopted by the Singapore government to address the challenges with some mention of the 2nd supply-side policy. [Max 16m] Detailed analysis of at least 2 measures (Exchange rate and 1 type of supply-side policies) as well as thorough assessment of these measures adopted by the Singapore government to address the challenges. [Max 15m] 	15-20
L2	<ul style="list-style-type: none"> Clear explanation and analysis of the challenges faced by the Singapore government and its impacts on the Singapore economy are evident. But analysis is inconsistent eg. missing examples and links. For an answer that provided some analysis of at least 2 measures as well as an assessment of these measures adopted by the Singapore government to address the challenges but answer is lacking in analysis or scope. Detailed analysis of at least 3 measures (Exchange rate and at least 2 types of supply-side policies) as well as thorough assessment of these measures adopted by the Singapore government to address the challenges. However did not address all the 2 challenges (ie only address slow EG). [Max 12m] 	9-14
L1	<ul style="list-style-type: none"> Mere mention and analysis of the challenges with little or no mention of the measures to tackle the problem. For an answer with no mention or analysis of the challenges (ie essay on how the policy works) [Max 8m] For an answer with an irrelevant policy, such as gradual and modest appreciation which reduces real NY instead. 	1-8
Level	Allow up to 5 additional marks for Evaluation	Marks
E3	<ul style="list-style-type: none"> For an answer that uses appropriate analysis to support an evaluative conclusion about the relative effectiveness of the two measures adopted by the Singapore government to address the challenges mentioned in the preamble. The criteria used are supported with rigorous economic analysis. 	4-5
E2	<ul style="list-style-type: none"> For an answer that makes some attempt at evaluation or a summative conclusion about the relative effectiveness of the two measures adopted by the Singapore government to address the challenges mentioned in the preamble. The answer should have certain criteria in assessing the measures, but lacking in detailed analysis. 	2-3
E1	<ul style="list-style-type: none"> For an answer that gives an unsupported evaluative statement about the relative effectiveness of the two measures adopted by 	1

	the Singapore government to address the challenges mentioned in the preamble.	
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C2 Preliminary Examinations
Higher 2

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**INDEX
NUMBER**

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ECONOMICS

Paper 1 Case Study Questions

9757/01

23 August 2018

2 hours 15 minutes

Additional Materials: Answer Paper

READ THESE INSTRUCTIONS FIRST

Write your **name, CT group, Centre and Index numbers** clearly in the spaces at the top of this page and on every page you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use an HB pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid and tape.

Answer **all** questions.

Begin Question 2 on a fresh sheet of writing paper.

At the end of the examination, fasten your answers to Question 1 and Question 2 **separately**.

The number of marks is given in brackets [] at the end of each question or part question.

You are advised to spend several minutes reading through the questions before you begin writing your answers.

You are reminded of the need for good English and clear presentation in your answers.

This document consists of **8** printed pages.

[Turn over

Answer **all** questions

Question 1: Waste Recycling

Extract 1: US recyclers battered by global commodity plunge

US recyclers are fighting to stay alive. Prices for new materials have fallen so much in the past few years that recycled materials have lost their edge in the market. Besides, some states such as California had cut their subsidies in state-run recycling programs.

Global forces have put the squeeze on recyclers. Growth in China, the largest buyer for several types of recycled materials, has slowed significantly. Beijing even erected a so-called "Green Fence," which enacted standards on imports of Americans' recycling. Add to that a strong dollar, which makes buying U.S. materials more expensive for customers in other countries.

Meanwhile, oil prices have dropped to the lowest level in around 13 years. This is expected to have a further negative effect on the price paid for recycled materials such as recycled plastics. As new plastics, which are produced from petroleum, become more cheaply available, manufacturers buy less recycled plastics.

"Being green costs money," laments Waste Management CEO David Steiner. "When prices are high we'll pay you to recycle. When prices are low we have to charge you," Steiner says.

Sources: *The Seattle Times*, 5 March 2016 and *Forbes*, 14 September 2016

Figure 1: Price of Crude Oil

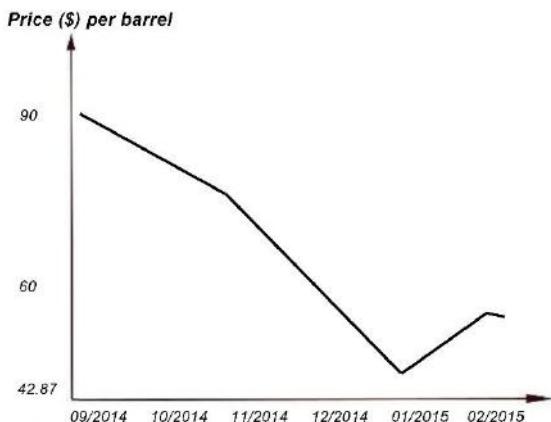
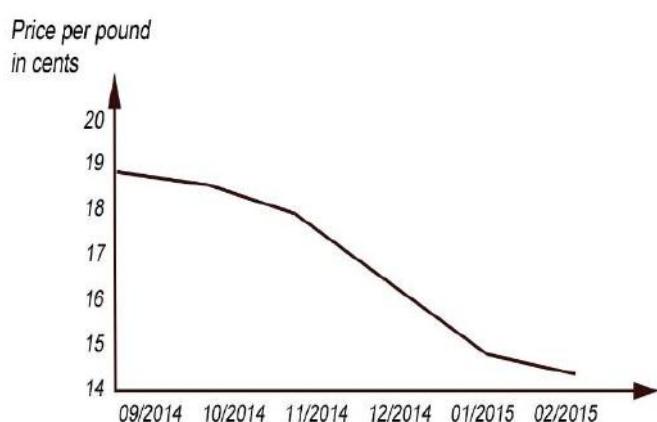


Figure 2: Price of Recycled Plastics



Source: *US Department Of Energy*

Source: *SecondaryMaterialsPricing.com*

Extract 2: The benefits of recycling

Recycling is the process of turning old used materials into new ones. Through recycling, energy and raw materials are saved. Moreover, studies have shown that for every one job in waste management there are four jobs in recycling. Jobs would be created by a new breed of companies that embrace recycling and servicing goods to prolong their lifespan. Examples include designing goods that last longer and can be repaired easily. It has been estimated that recycling and remanufacturing industries create more than \$1 billion in revenue and hundreds of thousands of jobs. According to the Darla Moore School of Business, if just one percent of all households in South Carolina were to recycle an additional eight newspapers per month, it could mean a gain of \$3.8 million in economic activity annually for the state.

Recycling reduces pollution because manufacturers are reusing materials instead of creating new ones, and toxic chemicals and greenhouse gases are not released into the atmosphere through incineration. Recycling also prevents hazardous waste from being dumped in landfills which can potentially contaminate water sources. Increasingly, many countries including the US have turned to recycling given the high opportunity cost of using precious land for the disposal of waste in landfills. Indeed, recycling is better than landfill, because it replaces new materials in the manufacturing process.

From the perspective of sustainable development, recycling helps to prevent resource destruction. It takes 4.4 tons of trees to create one ton of paper pulp, and recycled paper reduces solid waste by 29%. Meanwhile, recycling one ton of plastic bottles conserves about 3.8 barrels of oil.

Sources: *Institute For Local Self-Reliance*, 22 December 2016, *Renewable Resources Coalition*, 15 December 2016, *Eco Cycle Solutions*

Extract 3: Problems with recycling

The standard waste hierarchy generally demarcates between waste avoidance and waste management, with recycling squarely in the waste management zone. But recycling sits fairly low down the waste hierarchy. Reducing total waste created in the first place and reusing material as many times as possible, are higher up in the hierarchy as compared to recycling.

Besides, recycling process still consumes energy (and other resources) and costs money. In order to repurpose certain recycled materials, separate manufacturing plants need to be built and used. This would counteract the advantage recycling has in creating less pollution, since more may actually be generated as a result of the additional factories.

Recycling sites are also commonly unsafe. As with any waste, materials to be recycled have to be transported and processed somewhere. This means creating additional locations of potentially hazardous waste. These heaps of trash are grounds for bacteria, disease, and a laundry list of other unsafe conditions. In addition to this, recycling sites are also industrial plants. This means they are not without their own forms of pollution.

So recycling needs to be seen as what is – a last line of defence. Minimising waste is more important than managing it, and we need to keep our focus there.

Source: *Renewable Resources Coalition*, December 2016, *Planet Green Recycle*

[Turn over

Extract 4: How Pay-As-You-Throw works

Traditionally, residents pay for waste collection through property taxes or a fixed fee, regardless of how much trash they generate. Pay-As-You-throw (PAYT) breaks with tradition by treating trash services just like electricity, gas, and other utilities. Households are charged based on the amount of household trash they throw away. They would then purchase trash bags that correspond to the weight and size of the trash that they dispose. This creates a direct economic incentive to recycle or reuse more, and to generate less waste.

One of the most important advantages of a variable-rate program may be its inherent fairness. When the cost of managing trash is hidden in taxes or charged at a flat rate, residents who recycle and prevent waste subsidise their neighbours' wastefulness. Under PAYT, residents pay only for what they throw away.

Source: *United States Environmental Protection Agency*

Questions

- (a) (i) State the relationship between the price of crude oil and the price of recycled plastics shown in Figure 1 and Figure 2. [1]
- (ii) With reference to Extract 1, explain how a fall in the price of crude oil might impact the price of recycled plastics. [3]
- (b) Explain what Waste Management CEO David Steiner meant when he said, "when prices are high we'll pay you to recycle. When prices are low we have to charge you." [2]
- (c) Use the concept of opportunity cost to explain **two** reasons why many countries have turned to recycling instead of disposing their waste in landfills mentioned in Extract 2. [4]
- (d) Explain why waste collection paid through a flat fee results in residents who "recycle and prevent waste subsidise their neighbours' wastefulness". [2]
- (e) Assess the extent to which the promotion of recycling can help to achieve sustained and sustainable growth in the US. [8]
- (f) Discuss whether it would be more effective for the government to subsidise recycling or implement PAYT to address waste pollution. [10]

[Total: 30]

Question 2: China's Slowdown on Tourism, Infrastructure and Trading Partners

Table 1: Selected Economics Indicators for China, 2013 to 2016

	2013	2014	2015	2016
Real GDP growth (%)	7.8	7.3	6.9	6.7
Unemployment (%)	4.1	4.1	4.1	4.0
Inflation (CPI, %)	2.5	1.5	1.6	2.1
Exchange Rate (Renminbi per USD)	6.15	6.16	6.28	6.64
Current Account Balance (US\$billion)	148	236	304	202
Fiscal balance (change in %)	-1.9	-1.8	-3.4	-3.8

Source: *Focus Economics*

Extract 5: Chinese travellers set a new record for global tourism spending in 2016

The expenditure on tourism for Chinese travellers venturing abroad was US\$261 billion in 2016. Approximately 135 million Chinese travelled outside China last year, a 6 percent increase.

Chinese travellers were the second largest market, after the United States, for their contribution to global tourism in 2016. The World Travel & Tourism Council projects that China will be one of the 10 fastest growing markets for leisure travel spending through 2026.

Japan, Korea and Thailand benefited the most from outbound Chinese tourist spending and the U.S. and Europe also saw more spending from China. There has been an increased Chinese spending in Europe as more Chinese travellers reconsider the continent for trips in place of the usual Asian countries.

Source: United Nations World Tourism Organisation

Extract 6: Should we charge tourists a higher price than we do for locals

Tourism has long been regarded as a vehicle of economic prosperity and source of increased revenue. It is one of the world's largest industries, with a global economic contribution of over US\$7.6 trillion. The United Nations World Tourism Organisation forecasts that by 2030, the number of international tourist arrivals will reach 1.8 billion. With one in ten jobs on the planet reliant on tourism (that's 292 million people) and an equivalent worth of 10 per cent of global GDP, there is little wonder that host communities want to make the most of the opportunities it brings.

Recently, it was reported that some cafes in Belgium's Bruges are charging tourists 10 per cent more than locals for chips, and food and goods are also considerably higher for tourists in cities like Rome. Asian travellers especially from China could face even higher prices due to their perceived wealth. One of the most famous places for hiking prices up for visitors is Venice in which foreign tickets can cost 6 to 10 times more than local price. The city's "two-tier payment system" became so extreme that a complaint reached the European Commission in 2015 which claimed discriminatory practices against tourists. In the long run, such pricing

policy can hurt economies because tourists are less motivated to visit those countries again in the future.

[Turn over

Indeed a two-tier tourism payment system may be deemed unfair. But if locals had to start paying the same prices as tourists, it's likely that many of them would be prevented from enjoying heritage sites in their own communities. Furthermore, it may be one sustainable tourism practice to protect valuable resources as more money collected from the tourists could be used to maintain heritage sights. Thus expecting tourists to pay a little more to protect and maintain the sites they enjoy is morally defensible – whether this be Bruges, Venice or Rome.

Source: *Channel News Asia*, 6 July 2017

Extract 7: The investment addiction in China persists and only the rich are spending more

Generally, emerging economies rely on investment and exports, before shifting to consumption-driven models as they mature. Chinese President Xi Jinping has emphasized this transition as a key to achieving "high-quality development." And global companies have been swooping in, determined to cash in on a Chinese consumption boom.

Even if overall consumption is contributing more to GDP now, China is still heavily dependent on investments and government infrastructure projects and continues to grapple with the side effects of its addiction.

Since 2008, when Beijing countered the global financial crisis with a stimulus package worth 4 trillion yuan (\$610 billion at the current rate), investment has continued to account for more than 40% of GDP. This is an unusually high percentage for a large economy. The comparable figures for developed countries are around 20%.

No country has built so many roads, bridges and airports as quickly as China. Anne Stevenson-Yang, research director at J Capital Research, an economic research firm in Beijing, says the government has simply built too much. For example, in the city of Luliang in the inland province of Shanxi, a \$160 million airport, which opened in 2014, gets at most five flights a day and as few as three. Another symbol of the investment addiction can also be found in "China's Manhattan." Tianjin's Conch Bay, a 110-hectare district with a cluster of 40 high-rise buildings, was supposed to be the country's new financial capital as outlays surged over the past several years. But there were few signs of life. A number of buildings were still under construction; the streets were empty; and even completed buildings had no occupants. There are numerous examples of such projects throughout China that are underutilised.

On the other hand, consumption in China appears to be gathering steam, as exemplified by strong online shopping sales on the Nov. 11 Singles Day. But total retail sales of consumer goods increased just 8.8% in real terms in November 2017, which was much slower than the 12% growth in 2012.

Consumption patterns suggest that the masses are reluctant to spend, while the upper and middle classes are doing most of the buying. Sales of instant noodles, a staple for households with lower incomes, have declined for three years in a row. The Chinese beer market also has seen a three-year decline, yet demand for premium beer is robust. Therefore, although it may

look like consumption is becoming a stronger driver of the economy, the wealthy are playing a disproportionate role.

Source: *Nikkei Asian Review*, 26 December 2017 and *National Public Radio*, 15 October 2015

Extract 8: China slowdown is biting Singapore economy amid demographic crunch

The economy of tiny Singapore is taking a big hit from the slowdown in China, an impact coming just as the city-state is struggling with a homegrown demographic squeeze.

Buying and selling goods is a crucial driver of growth for Singapore's economy: companies based on the island supply components that go into smartphones made in China and the shipping industry helps transport raw materials across the world. This makes Singapore particularly susceptible to the weakness in China's economy.

It's a slowdown immediately apparent in data released earlier this week. Singapore's non-oil domestic exports (NODX) contracted 7.2 percent on-year in December, accelerating the decline from November's 3.4 percent fall. Exports to China fell nearly 19 percent on-year in December.

The picture is complicated by the city-state's looming demographic crunch. By 2030, the number of people over the age of 65 in the city-state is expected to double, making up around 20 percent of the population. At the same time, fewer babies are being born. Singapore's fertility rate was only 1.2 births per woman in 2013, according to World Bank data. That's not just below the replacement rate of 2.1, it's below even famously aging Japan's rate of 1.4 and puts the city-state only fourth from last globally.

Singapore had hoped to resolve this problem of falling birth rates and aging by opening up its borders and allowing immigrants to come in. That surge outpaced the addition of new infrastructure and housing, leading to overcrowded public transportation systems and fast-rising housing prices. However, migrant numbers had slowed down in recent years due to local discontent.

Singaporeans are a practical and pragmatic people. As the population ages, many expect the immigration faucet to turn back on eventually to address economic and social needs such as caregiving.

Source: CNBC, 20 January 2016

[Turn over

Questions

- (a) Using the information in Table 1 and Extract 5,
- (i) calculate and interpret the likely value of income elasticity of demand for Chinese outbound tourism in 2016. [2]
 - (ii) explain how the rise in Chinese outbound tourism might contribute to the value of the Renminbi against the USD from 2013 to 2016. [2]
- (b) Explain how an increasing preference for outbound tourism might change China's multiplier value. [2]
- (c) (i) Use an aggregate demand and aggregate supply diagram to explain why investments and government infrastructure projects have led to excess capacity in China described in Extract 7. [3]
- (ii) Explain why the change in the fiscal balance in Table 1 suggests China's government spending on infrastructure projects might not be optimal. [3]
- (d) Discuss whether the practice of a 'two-tier payment system' is, on balance, beneficial to the consumers, firms and recipient country. [8]
- (e) Assess whether the Singapore government should be more concerned with the impact of China's economic slowdown on the economy or the demographic challenges. [10]

[Total: 30]

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- Question 1 Figure 2: © SecondaryMaterialsPricing.com
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- Question 1 Extract 3: © *Problems with recycling*, Renewable Resources Coalition, December 2016, Planet Green Recycle
- Question 1 Extract 4: © *How Pay-As-You-Throw works*, United States Environmental Protection Agency
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2 hours 15 minutes

Additional Materials: Answer Paper

READ THESE INSTRUCTIONS FIRST

Write your **name**, **CT group**, **Centre** and **Index numbers** clearly on every sheet of answer paper that you hand in.

Write in dark blue or black pen on both sides of the answer paper.
You may use a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid and tape.

Answer **three** questions in total, of which **one** must be from Section A, **one** from Section B and **one** from either Section A or Section B.

Start each question on a fresh sheet of writing paper.

At the end of the examination, fasten your answers to each essay question **separately** with the strings provided.

If you only attempted 2 essays, please submit a blank piece of writing paper (nil return) for the 3rd essay, indicating your full name, CT group, centre number, index number **and the question number of the essay question you would have attempted** if time had permitted. If you only attempted 1 essay, please submit 2 of such nil returns.

The number of marks is given in brackets [] at the end of each question or part question.

You are advised to spend several minutes reading through the questions before you begin writing your answers.

You are reminded of the need for good English and clear presentation in your answers.

This document consists of **3** printed pages and a **blank** page.

[Turn over

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Answer **three** questions in total.

Section A

One or two of your three chosen questions must be from this section.

- 1 The world has spent an estimated \$2 trillion on dams in recent decades. Many nations built dams to control floods, improve irrigation, alleviate water shortages and generate low-carbon hydroelectricity. But recent studies have shown that mostly people living upstream are benefiting from the capture of river flows at the expense of those downstream. Dams also cause decay to the surrounding areas leading to large emissions of greenhouse gases such as methane that contributes more to global warming than carbon dioxide.
 - (a) Use the concepts of public goods and imperfect information to explain why price [10] mechanism fails to allocate resources efficiently in the provision of dams.
 - (b) Assess the determinants that a rational decision-making government should [15] consider in allocating resources to build a new dam.

- 2 In 2014, Malaysia ended its decades-old petrol and diesel subsidies and price caps in an attempt to save billions of dollars to reduce its fiscal deficit. However in 2017, motorists welcomed the government's statement that should the retail prices of petrol and diesel exceed RM2.50 per litre continuously for three months, such measures would be reintroduced.
 - (a) Explain the impact of a subsidy and a maximum price on consumer surplus and [10] producer surplus.
 - (b) In view of rising fuel prices, discuss whether the Malaysian government should [15] reintroduce petrol and diesel subsidies or price caps to keep fuel prices in check.

- 3 International trade is a driving force behind economic growth. According to the World Trade Organization (WTO), there are around 420 regional trade agreements in force around the world in 2016 in which barriers to trade and foreign direct investment are lowered.
 - (a) Explain the cost savings for firms and industries that might arise when their countries [10] are in regional trade agreements.
 - (b) Discuss the likely impact of regional trade agreements on the profitability and [15] efficiency of firms.

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Section B

One or two of your three chosen questions must be from this section.

- 4** In April 2016, despite 18th consecutive months of negative inflation arising from lower oil and car prices and a soft property market, the Singapore government did not show any intention of intervening to boost prices. On the other hand, Japan embarked on another round of extensive monetary expansion as the familiar 25 year-old threat of deflation resurfaced after a brief period of consumer price growth.

(a) Explain the possible causes of deflation. [10]

(b) Discuss the different approaches used by the two governments. [15]

- 5** In 2016, the Singapore government raised the personal income tax rate for the top income earners of a chargeable annual income of over S\$320,000 from 20 percent to 22 percent. At the same time, those who earned a chargeable annual income of S\$28,000 and below automatically received a higher amount of Goods and Services Tax (GST) cash voucher. Besides, the government expected a deficit of S\$5.6 billion (1.4% of GDP) and thus Fiscal Year 2016 was an expansionary budget.

Assess the importance of automatic fiscal stabilisers in determining whether [25] discretionary fiscal policy should be used to reduce business cycle fluctuations and achieve inclusive growth in Singapore.

- 6** In recent years, the refugee crisis is slowly undoing decades of economic integration by generating a new wave of protectionism that is believed to have shocked the global economy.

Discuss the likely impact of protectionism on the economic growth, inflation and standard [25] of living of an economy.

(a)	(i)	State the relationship between the price of crude oil and the price of recycled plastics shown in Figure 1 and Figure 2.	[1]
		<ul style="list-style-type: none"> ● Positive or direct relationship 	
	(ii)	With reference to Extract 1, explain how a fall in the price of crude oil might impact the price of recycled plastics.	[3]
		<ul style="list-style-type: none"> ● Oil is a key input in the manufacture of new plastics, so when the price of oil falls, the cost of production of new plastics falls. This raises the supply and lowers the price of new plastics (1m). ● From Extract 1, as recycled plastic is a substitute for new plastic, when the price of new plastic falls, producers of goods using plastics will switch from the buying recycled plastics to new plastics (1m) ● This causes the demand and hence the prices for recycled plastic to fall (1m) 	
(b)		Explain what Waste Management CEO David Steiner meant when he said in Extract 1, "when prices are high we'll pay you to recycle. When prices are low we have to charge you."	[2]
		<ul style="list-style-type: none"> ● TR = revenue earned from selling recycled materials ● TC = cost of buying recyclable waste + cost of processing such waste ● High prices of recycled materials => TR exceeds the cost processing recyclable waste => waste management firms are willing to pay for recyclable waste. (1m) ● Low price of recycled materials => TR falls below processing costs => waste management firms need to charge for the collection of recyclable waste to avoid making losses. (1m) 	
(c)		Use the concept of opportunity cost to explain two reasons why many countries have increasingly turned to recycling instead of disposing their waste in landfills mentioned in extract 2.	[4]
		<ul style="list-style-type: none"> ● "Precious land" in Extract 3 suggests that land is limited so when a piece of land is used as a landfill, there is a high opportunity cost in terms of the next best alternative forgone, which could be some residential, industrial or commercial development. As recycling of waste reduces the need for landfills, this frees up land for such alternative uses. (2m) ● Recycling also "replaces new materials in the manufacturing process" thus reducing the demand, extraction and hence depletion of such non-renewable natural resources, which also has high opportunity costs in terms of other goods that could have otherwise been produced. (2m) <p>Other possible answer:</p> <ul style="list-style-type: none"> ● Recycling reduces environmental damage caused by landfills. As such, this frees up government spending that was originally spent on reducing pollution to be used for next best alternative such as spending on healthcare. 	
(d)		Explain why waste collection paid through a flat fee results in residents who "recycle and prevent waste subsidizing their neighbors' wastefulness".	[2]

	<ul style="list-style-type: none"> With a fixed fee charged for all households, those who generate more waste could be paying less than the cost of disposing their waste while those who generate less waste could be paying more than the cost incurred from disposing their waste (1m) As residents who recycle and prevent waste are likely to generate less waste while those who do not are likely to generate more waste, the profits earned by the recycling firm from the former are therefore used to subsidize the losses incurred from providing waste disposal services to the latter (1m) 	
(e)	<p>Assess the extent to which the promotion of recycling can help to achieve sustained and sustainable growth in the US.</p>	[8]
	<ul style="list-style-type: none"> Sustained growth refers to a positive and stable rate of growth that can be maintained over a prolonged period. Sustainable growth refers to growth which is achieved without significantly creating other economic problems like the depletion of resources and environmental degradation that will reduce the welfare of future generations. <p><u>Thesis: Recycling promotes sustained and sustainable growth in the US</u></p> <p>Sustained growth</p> <ul style="list-style-type: none"> Recycling sector generates investments and jobs in the recycling and remanufacturing sectors like the designing of long lasting and more repairable goods (extract 2) Such investments in the recycling sector raises AS and also through the multiplier effect raise overall consumption, AD, output and growth throughout the economy, hence promoting sustained growth <p>Sustainable growth</p> <ul style="list-style-type: none"> Recycling reduces the need for landfills, thus preventing environmental degradation through possible contamination of water sources through seepage (extract 2) Recycling also reduces environmental degradation through air pollution because it prevents toxic chemicals and greenhouse gases from being released into the atmosphere due to the incineration of waste (extract 2). Recycling reduces the depletion of natural resources as it lowers the demand and extraction of energy and raw materials like fossil fuels and trees/forests that are often non-renewable in nature (extract 2) <p><u>Anti-thesis: Recycling harms sustained and/or sustainable growth in the US</u></p> <p>Sustained growth</p> <ul style="list-style-type: none"> Promoting recycling will result in reduced demand, output and employment for firms and workers belonging to the sectors involved in the extracting and processing of new natural resources <p>Sustainable growth</p> <ul style="list-style-type: none"> Resource depletion - the recycling process still consumes energy (and other resources) as separate manufacturing plants need to be built and used (extract 3) Environmental degradation - recycling sites are polluting as they have "heaps of trash that are grounds for bacteria, disease, and a laundry list of other unsafe conditions" and they are also industrial plants that generate their own forms of pollution (extract 3) 	

	<p><u>Conclusion / Evaluation</u></p> <ul style="list-style-type: none"> In terms of <u>sustained growth</u>, if the estimates of the generation of \$1 billion in revenue and hundreds of thousands of jobs as mentioned in extract 2 are accurate, the impact on sustained growth is likely to be <u>substantial</u> As for <u>sustainable growth</u>, given that resource depletion and environmental degradation can be prevented when goods are reused rather merely being reduced when they are recycled, the impact of recycling is arguably <u>much more limited in comparison</u>. <p>Mark Scheme</p> <table border="1"> <tbody> <tr> <td>L2: (4-6)</td><td> <ul style="list-style-type: none"> Provides a balanced response (i.e. both thesis and anti-thesis) Covers sufficient scope i.e. considers the impact on both sustained and sustainable growth Applies case evidence to support answers Applies economic concepts or theories Demonstrates sufficient depth and rigour in the analysis </td></tr> <tr> <td>L1: (1-3)</td><td> <ul style="list-style-type: none"> Lacking in any of the L2 criterions </td></tr> <tr> <td>E (+2)</td><td> <ul style="list-style-type: none"> Evaluates the extent to which recycling promotes sustained <u>or</u> sustainable growth in the US </td></tr> </tbody> </table>	L2: (4-6)	<ul style="list-style-type: none"> Provides a balanced response (i.e. both thesis and anti-thesis) Covers sufficient scope i.e. considers the impact on both sustained and sustainable growth Applies case evidence to support answers Applies economic concepts or theories Demonstrates sufficient depth and rigour in the analysis 	L1: (1-3)	<ul style="list-style-type: none"> Lacking in any of the L2 criterions 	E (+2)	<ul style="list-style-type: none"> Evaluates the extent to which recycling promotes sustained <u>or</u> sustainable growth in the US 	
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(f)	<p>Discuss whether it would be more effective for the government to subsidize recycling or implement PAYT to address waste pollution.</p>	[10]						
	<p><u>How does subsidizing recycling work and what are its limitations?</u></p> <ul style="list-style-type: none"> Waste pollution occurs because of air pollution arising incinerated waste and water pollution arising from landfills With more waste being recycled, less waste is incinerated and diverted to landfills hence recycling generates positive externalities as it reduces pollution associated with such activities Recycling thus benefits 3rd parties like the people staying near incineration plants and landfills as they will experience less pollution. In the market for recycling, positive externalities => SMB > PMB by EMB resulting in underproduction, so subsidizing recycling thus lowers PMC to PMC' such that the private equilibrium coincides with the social equilibrium (illustrate with diagram) Limitations: <ul style="list-style-type: none"> When prices of recycled materials fall, recycling becomes less profitable and waste management firms may decide to collect or process less recyclable waste (extract 1), resulting in more waste being incinerated or diverted to landfills Although subsidies will reduce the likelihood and extent, it does not prevent this from happening, so overall waste incineration and dumping may still increase despite such subsidies. <p><u>How does PAYT work and what are its limitations?</u></p> <ul style="list-style-type: none"> Whether waste is incinerated, dumped or recycled, pollution and resource depletion will occur so waste generates negative externalities With a flat fee being charged for waste collection and disposal, the marginal cost of disposing an additional unit of waste would be zero, thus firms and households have no incentive to generate less waste, hence resulting excessive waste generation By implementing PAYT, firms and households are charged based on the amount of waste thrown, which creates an incentive for them generate less waste 							

	<ul style="list-style-type: none"> ● Less waste can be generated by not only recycling more, but also reusing rather than disposing existing goods, buying goods which generate less waste (e.g. less packaging) or by switching to less wasteful production methods and lifestyles ● Limitations: <ul style="list-style-type: none"> ○ Even with PAYT, the cost of waste disposal may still constitute a small proportion of income for the average household, especially for a rich developed country like the USA, so the incentive for households to cut down on waste generation may be less than expected <p><u>Conclusion:</u></p> <ul style="list-style-type: none"> ● Although both policies have their limitations, PAYT is likely to be overall more effective because it will always provide some incentive for firms and households to cut waste, which can occur through a variety of ways in addition to recycling. ● In contrast, subsidies only promote recycling and has no impact on other ways of reducing waste, so it can be totally ineffective when prices of recycled materials were to fall drastically 							
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(a)	Using the information in Table 1 and Extract 5,	
	(i) calculate and interpret the likely value of income elasticity of demand for Chinese outbound tourism in 2016.	[2]
	<p>Calculation</p> <ul style="list-style-type: none"> • Income elasticity of demand = % change in Qd / % change in Y = 6 / 6.7 = 0.90 [1] <p>Interpretation</p> <ul style="list-style-type: none"> • Chinese outbound tourism is considered a necessity as it positive income inelastic.[1] 	
	(ii) explain how the rise in Chinese outbound tourism might contribute to the value of the Renminbi against the USD from 2013 to 2016.	[2]
	<ul style="list-style-type: none"> • Renminbi (RMB) depreciated against the USD as seen in Table 1 [1]. • Rising outbound tourism means that Chinese tourists will exchange more RMB for foreign currencies like the USD to spend on their trips, thus raising the supply of the RMB in the FOREX market [1] <p><i>(Although tourism expenditure is conceptually considered as spending on the service imports, there is no need for this to be explicitly mentioned for full credit to be awarded.)</i></p>	
(b)	Explain how an increasing preference for outbound tourism might change China's multiplier value.	[2]
	<ul style="list-style-type: none"> • With rising preference for outbound tourism, Chinese households will spend a greater proportion of every additional RMB earned on foreign goods and services, which are withdrawals from the circular flow [1] • This will raise China's marginal propensity to withdraw (MPW), hence lowering its multiplier value since $k = 1 / MPW$ [1]. <p><i>(Answers which explain why MPM may rise or why MPC may fall are also acceptable. However, to get full credit, these terms must be explicitly mentioned. Answers which show a clear understanding of the multiplier process can still be awarded full credit even if there is no mention of any form of multiplier formula)</i></p>	
(c)	(i) Use an aggregate demand and aggregate supply diagram to explain why investments and government infrastructure projects have led to excess capacity in China described in Extract 7.	[3]
	<ul style="list-style-type: none"> • Rising investments and government spending on infrastructure raises AD through its I and G components and also AS through greater capital accumulation [1] • However, excessive and indiscriminate investments could have caused AS to rise faster than in AD thus causing excess capacity to arise (or causing the extent of excess capacity to increase) [1] • Diagram showing AS shifting right more than AD resulting in a larger gap between actual and the full employment output levels [1] <p><i>(Diagrams which do not explicitly show the change in the gap between actual and full employment output levels will not be credited)</i></p>	

	(ii)	Explain why the change in the fiscal balance in Table 1 suggests China's government spending on infrastructure projects might not be optimal.	[3]
		<ul style="list-style-type: none"> ● Table 1 showed the possibility of a rising fiscal deficit or decreasing fiscal surplus or [1], which suggests that government spending on infrastructure has been rising faster than tax revenues [1] ● Such spending is not optimal as it has failed generate enough economic growth to enable tax revenues to rise sufficiently to pay for such spending [1] <p>OR</p> <ul style="list-style-type: none"> ● Table 1 shows a rising fiscal deficit or decreasing fiscal surplus which could be due to rising government spending on infrastructure [1] ● However such spending was sub-optimal / excessive / wasteful because it resulted in many underutilized airports and buildings (extract 7) [1] <p><i>(The use of the term 'worsening balance' is acceptable for 1st mark. The 2nd answer will not score full marks because it does not address tax revenues which is the other aspect of a fiscal balance besides government spending)</i></p>	
(d)		Discuss whether the practice of a 'two-tier tourism payment system' is on balance, beneficial to the consumers, firms and recipient country.	[8]

Introduction

- As tourism accounts for 10% of all jobs and output globally (extract 6), tourism is an undoubtedly an important industry for many countries
- The 'two-tier tourism payment system' is a form of price 3rd discrimination (PD), which occurs when different groups of consumers are charged different prices for the same product for reasons not associated with differences in costs.
- Given the importance of tourism on any economy, the impact of such PD on consumers, firms and the recipient country needs to be carefully analyzed

Consumers

- The demand by tourists is likely to be less price elastic:
 - They may be more well-off and hence the entrance fees of the attractions form a relatively small proportion of their income
 - They may consider such attractions as 'must-sees' or necessities since they may not get chance to do so once they leave the country
- On the other hand, the demand by locals is likely to be more price elastic because they may be poorer and they can always visit such attractions when they are free so there is a low degree of necessity
- Since locals are charge lower prices than tourists, local consumers will benefit while foreign consumers will suffer from such PD.

Firms

- According to economic theory, PD enables firms to earn higher profits as compared to charging a single price for all consumers, hence firms should benefit from the 2 tier payment system
- However, if firms were to be too extreme in their PD e.g. those in Venice, this might result in complaints to regulatory bodies like the European Commission, which might then clamp down on such practices (extract 6) thus causing their profits to fall instead

Recipient country (economy)

- As such PD enables firms to earn more revenue from tourists, this will boost AD which through the multiplier effect will generate higher output, income and employment throughout the economy
- However if the PD were to be too extreme, this may tarnish the reputation of

	<p>the recipient country, thus causing tourist arrivals and spending to fall in the long run, which will instead adversely affect output, income and employment</p> <p>Conclusion / Evaluation</p> <ul style="list-style-type: none"> Unless the difference between local and tourist price is unreasonably large, my view is that a 2 tier payment system should overall be beneficial This is especially so if the extra revenue from PD is used to better maintain the heritage sites (extract 6) as this will enable tourism growth to be more sustainable, thus benefiting all consumers, firms as well as the recipient country in the long run. <p>Mark Scheme</p> <table border="1"> <tbody> <tr> <td>L2: (4-6)</td><td> <ul style="list-style-type: none"> Analyses the impact on consumers, firms <u>and</u> the recipient country. Provides a balanced response with positive and adverse impacts* Applies the economic concepts of PD and PED** Elaborates with sufficient rigour and detail Supports answers with case evidences </td></tr> <tr> <td>L1: (1-3)</td><td> <ul style="list-style-type: none"> Lacking in anyone of the L2 criterions </td></tr> <tr> <td>E: (+2)</td><td> <ul style="list-style-type: none"> Takes a substantiated stand on whether the 2 tier payment system is individually / collectively beneficial for consumers, firms and the recipient country </td></tr> </tbody> </table> <p>*For full L3 marks to be awarded, positive and adverse impacts need to be presented for each and all parties</p> <p>**Analysis without PED will be capped at 4m</p>	L2: (4-6)	<ul style="list-style-type: none"> Analyses the impact on consumers, firms <u>and</u> the recipient country. Provides a balanced response with positive and adverse impacts* Applies the economic concepts of PD and PED** Elaborates with sufficient rigour and detail Supports answers with case evidences 	L1: (1-3)	<ul style="list-style-type: none"> Lacking in anyone of the L2 criterions 	E: (+2)	<ul style="list-style-type: none"> Takes a substantiated stand on whether the 2 tier payment system is individually / collectively beneficial for consumers, firms and the recipient country 	
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(e)	<p>Assess whether the Singapore government should be more concerned with the impact of China's economic slowdown on the economy or the demographic challenges.</p>	[10]						
	<p>How could China economic slowdown adversely affect the Singapore economy?</p> <ul style="list-style-type: none"> Economic slowdown in China → ↓ income → ↓ M and ↓ outward FDI China is a major export market for Singapore => Singapore experiences large ↓ X & ↓ I → ↓ AD → ↓ output and employment → ↑ unemployment ↓ X → ↓ (X-M) → ↓ BOT → ↓ BOP ↓ Inward FDI → worsening of capital and financial account → ↓ BOP <p>How could changing demographics adversely affect the Singapore economy?</p> <ul style="list-style-type: none"> Aging population → ↓ C → ↓ AD → ↓ output and employment Aging population → shrinking labour force → ↓ quantity of labour → ↓ AS → ↑ GPL and ↓ output and employment Aging population → ↑ public spending on healthcare and ↓ taxes from income and consumption → strain on the government budget → ↓ public spending on other productive areas e.g. education → ↓ potential growth <p><i>(Note: Explanations can be in terms of either reduced output or slower growth)</i></p> <p>Conclusion / Evaluation</p>							

		<ul style="list-style-type: none"> While China's economic slowdown would have had a large adverse impact on the Singapore economy in the short run, the long run impact is arguably limited as Singapore can always diversify into other export markets given time In contrast, while it is always possible for the Singapore to open its "immigration faucet" to mitigate the adverse effects of its aging population, such policies have proven to very unpopular in the past (extract 8) and is likely to face much social and political objections in the foreseeable future Hence Singapore government should arguably be more concerned about its demographic challenges rather than China's economic slowdown. <p>Mark Scheme</p> <table border="1"> <tbody> <tr> <td>L2 (5-7)</td><td> <ul style="list-style-type: none"> Analyses the impact on the Singapore economy of <u>both</u> China's economic slowdown <u>and</u> its own demographic challenges Applies relevant economic tools of analysis e.g. AD AS or PPC Elaborates with sufficient rigour and detail </td></tr> <tr> <td>L1 (1-4)</td><td> <ul style="list-style-type: none"> Lacking in anyone of the L2 criterions </td></tr> <tr> <td>E (+3)</td><td> <ul style="list-style-type: none"> Takes a substantiated stand on which problem is of a greater concern for the Singapore government </td></tr> </tbody> </table>	L2 (5-7)	<ul style="list-style-type: none"> Analyses the impact on the Singapore economy of <u>both</u> China's economic slowdown <u>and</u> its own demographic challenges Applies relevant economic tools of analysis e.g. AD AS or PPC Elaborates with sufficient rigour and detail 	L1 (1-4)	<ul style="list-style-type: none"> Lacking in anyone of the L2 criterions 	E (+3)	<ul style="list-style-type: none"> Takes a substantiated stand on which problem is of a greater concern for the Singapore government 	
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[Total = 30 marks]

1. The world has spent an estimated \$2 trillion on dams in recent decades. Many nations built dams to control floods, improve irrigation, alleviate water shortages and generate low-carbon hydroelectricity. But recent studies have shown that mostly people living upstream are benefiting from the capture of river flows at the expense of those downstream. Dams also cause decay to the surrounding areas leading to large emissions of greenhouse gases such as methane that contributes more to global warming than carbon dioxide.

- (a) Use the concepts of public goods and imperfect information to explain why the price mechanism fails to allocate resources efficiently in the provision of dams. [10]

Why may dams be considered as public goods?

- Non-excludable: Once a dam is built and operated, you cannot prevent people who stay near the dam from enjoying flood control even if they have not paid for its construction or operation
- Non-rival: The extent of the flood control does not diminish even if more firms or households move into the area surrounding the dam

How does the existence of public goods lead to market failure?

- Non-excludable: As people who stay near the dam can enjoy flood control without paying, most will be unwilling to pay as they can always free ride on others who do. It is thus not profitable for a firm to build and operate the dam as it will be unable to earn enough revenue to cover its cost. The dam will therefore not be provided in the free market, which means that there is total market failure.
- Non-rival: As the marginal cost of allowing an additional person to consume flood control is zero, the socially efficient price should be zero so that as many people as possible can enjoy the flood control. However, as a profit maximizing dam operator will definitely charge a positive price so that it can make profits, the free market outcome will never be socially efficient.

Why are the forms of imperfect information that may exist in the provision of dams?

- Merit goods: the community staying near the dam may underestimate the extent of the benefits (e.g. improvement in irrigation, alleviation of water shortages and cheaper and less polluting electricity) that they may arises from the provision of the dam
- Demerit goods: the community staying near the dam may underestimate the extent of the cost arising from environmental damage (e.g. emission of greenhouse gasses arising from the decay in the surrounding regions) due to the construction and operation of the dam

How does such forms of imperfect information lead to market failure?

- In a free market, it is possible for a private firm to finance the building and operation of a dam if the revenue that it expects to earn from selling electricity and water exceeds the expected costs of building, operating and maintaining the dam.
- However, to for the dam to be built, the firm would probably need to gain the support and approval of the government, which in turn depends on the support and approval of the people staying near the dam as they will be directly affected by its construction and existence.
- So if the people staying near the dam underestimates the private benefits, than the dam might not be built even when it should.
- Conversely if the people staying near the dam underestimates the private costs, then the dam might be built when it should not have been.

(To score L3, the analysis of public goods and EITHER merit OR demerit goods will be sufficient)

Level	Descriptors	Marks
L3	<ul style="list-style-type: none"> Explains why dams could be public goods AND how imperfect information may exist in the provision of dams Explains how public goods AND such forms of imperfection information lead to market failure Explanations are rigorous and detailed Illustrates understanding using examples from the preamble OR other plausible examples related to the provision of dams 	8-10
L2	<ul style="list-style-type: none"> Lacking in any one of the L3 criterions 	5-7
L1	<ul style="list-style-type: none"> Largely irrelevant response Descriptive response which lack application of economic concepts or theory Serious and pervasive conceptual errors 	1-4

(b) Assess the determinants that a rational decision-making government should consider in allocating resources to build a new dam. [15]

What is rational decision making from the perspective of the government?

- A rational decision is one where the expected benefits of the decision outweighs the expected costs
- In general, the main economic aim of a government is to maximize society's welfare and for that to occur, the expected social benefits and costs needs to be considered
- Social benefits and costs include both the private as well as external benefits and costs

What determinants should a rational government consider in deciding to build a new dam?

- Private benefits
 - This refers to the benefits enjoyed by economic agents that are directly derived from the operation of the dam
 - For example, the dam may result in improved irrigation thus benefitting the farmers in the surrounding region
 - Such costs can be estimated based on the expected increase in agricultural output and subsequently the expected increase in farmers' incomes
- External benefits
 - This refers to benefits enjoyed by 3rd parties i.e. people who indirectly benefit from the construction or operation of the dam
 - For example, when electricity is generated by the dam, the demand and hence production of electricity from other more polluting carbon sources is lowered, thus reducing global warming so that everyone else in the country benefits from less extreme weather conditions
 - Such costs can be estimated based on the expected power generation capacity of the dam, the carbon intensity of the alternative power generation methods, the reduction in carbon emissions, the reduced probability of adverse weather conditions and the expected damage caused by such adverse weather conditions
- Private costs
 - This refers to costs involved in the construction, operation and maintenance of the dam
 - Construction costs can be estimated by having construction firms to bid for the project while operation and maintenance costs can be estimated by looking at such costs that have been incurred by existing dams

- External costs
 - External costs refer to cost suffered by 3rd parties i.e. people who are indirectly harmed from the construction or operation of the dam
 - For example, damming the river upstream may cause fishermen living downstream to suffer from lower water levels, reduced catch of fishes and hence lowered incomes
 - Estimates of such costs can be obtained by studying similar effects in other countries to calculate the reduction in the fish caught and hence the fall in fishermen income.

How important are these determinants in the context of dam provision?

- The easiest cost to estimate is arguably private costs as the cost of building, running and maintenance have already been incurred by many other existing local or foreign dam projects
- While the potential benefits enjoyed by farmers from improved irrigation and potential costs borne by fishermen from reduced catch can be highly variable depending on how and how much water is redirected, the effects are nevertheless specific and thus a range of estimates can be accurately calculated if high quality studies are commissioned
- The most difficult and thus most important determinant is the external costs incurred as the extent to which the reduction in carbon emissions affects the probability and severity of adverse weather conditions and the resulting damage done in a particular country are largely unpredictable as the global weather system is probably still too complex for scientist to predict with much accuracy

(Besides classifying the determinants as private and external costs and benefits and assessing these determinants based on the availability of information, other forms of classification and criterions for assessment can also be accepted if they are relevant, logical and systematic. Examples of such other determinants include the government's budget constraints and the opportunity costs in terms of alternative government projects that are forgone to finance the building of the dam)

Level	Descriptors	Marks
L3	<ul style="list-style-type: none"> • Explains the meaning of a rational decision from a government's perspective • Identifies and explains relevant determinants that a government should consider in its decision to intervene in the provision of a dam • Explains using economic concepts or theory • Explains with rigor and detail • Illustrates understanding using examples from the preamble <u>or</u> other plausible examples related to the provision of dams 	8-10
L2	<ul style="list-style-type: none"> • Lacking in any one of the L3 criterions 	5-7
L1	<ul style="list-style-type: none"> • Largely irrelevant response • Descriptive response which lack application of economic concepts or theory • Serious and pervasive conceptual errors 	1-4
E3	<ul style="list-style-type: none"> • Evaluates the relative importance of most of the determinants • Substantiates with relevant and convincing arguments 	4-5
E2	<ul style="list-style-type: none"> • Evaluates the relative importance of one or two determinants • Substantiates with arguments that are not entirely relevant nor convincing 	2-3
E1	<ul style="list-style-type: none"> • Evaluative comments that are not substantiated, poorly substantiated or are not directly relevant to the requirements of the question 	1

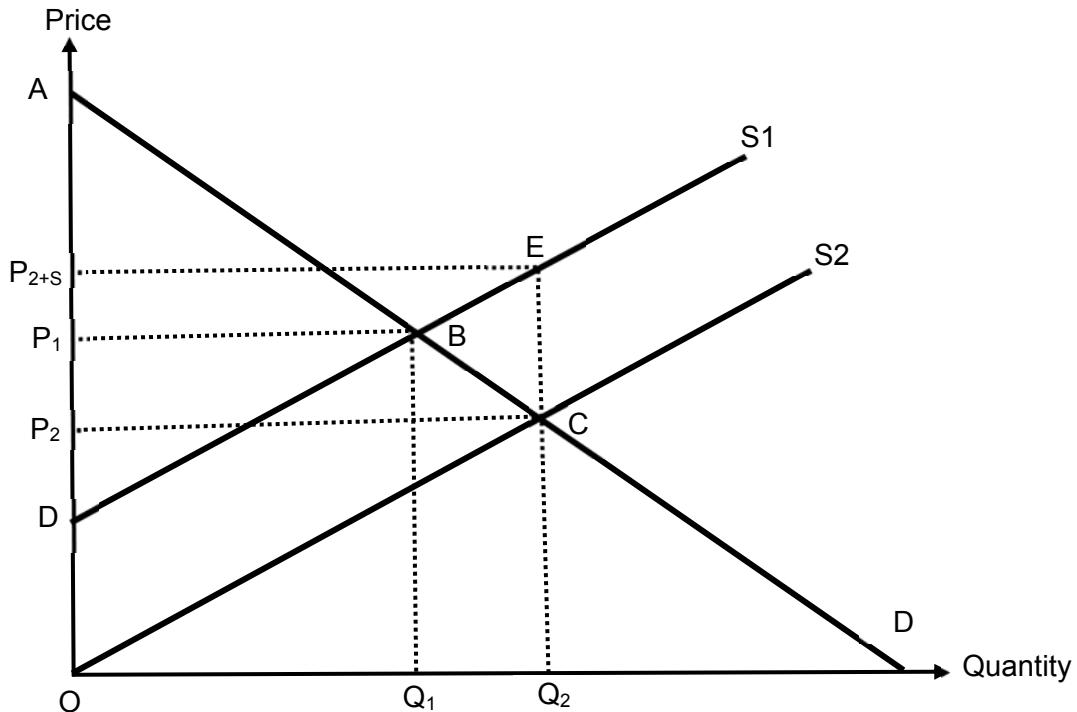
2. In 2014, Malaysia ended its decades-old petrol and diesel subsidies and price caps in an attempt to save billions of dollars and reduce its fiscal deficit. However in 2017, motorists welcomed the government's statement that should the retail prices of petrol and diesel exceed RM2.50 per litre continuously for three months, such measures would be reintroduced.

- (a) Explain the impact of a subsidy and a maximum price on consumer surplus and producer surplus. [10]

What is meant by subsidies, maximum price, consumer surplus and producer surplus?

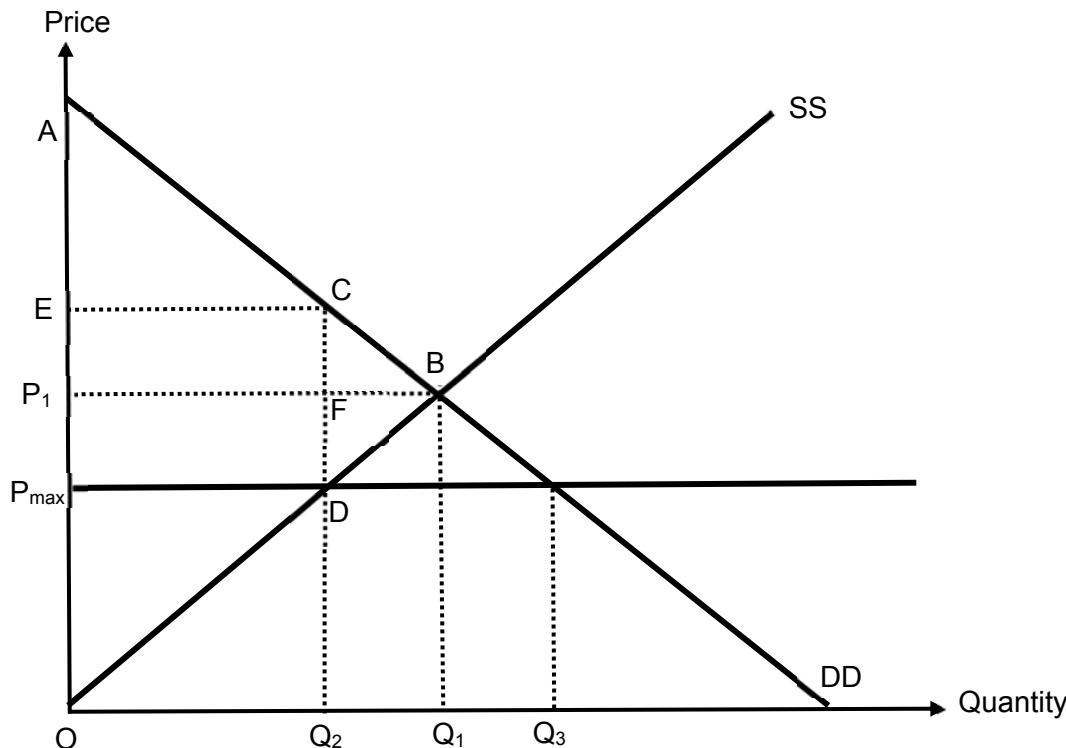
- A per unit subsidy refers to a fixed amount of funding that is provided by the government to firms for each unit of output produced or sold
- An effective maximum price (or price ceiling) is a legally established price that is set below the free market equilibrium price where producers are prohibited from selling above this stipulated price.
- Consumer surplus (CS) refers to the welfare enjoyed by consumers from buying and consuming a good, which can be measured by the area below the market demand curve and above the price line
- Producer surplus (PS) refers to the welfare enjoyed by producers from producing and/or selling a good, which can be measured by the area above the market supply curve and below the price line

How does a subsidy affect consumer surplus & producer surplus?



- A per unit subsidy of $P_{2+s} - P_2$ (or EC) shifts the supply downwards from S1 to S2 causing the equilibrium market quantity to rise from Q_1 to Q_2 and the equilibrium market price to fall from P_1 to P_2
- Before the subsidy, CS is equal to area ABP_1 while after subsidy, CS is equal to area ACP_2 , thus the increase in the CS is equal to area P_1BCP_2
- Before the subsidy, PS is equal to area P_1BD while after subsidy, PS is equal to area P_2CO which is equivalent to area $P_{2+s}ED$, thus the increase in the PS is equal to area $P_{2+s}EBP_1$
- A subsidy definitely increases both the CS and PS.

How does a maximum price affect consumer surplus & producer surplus?



- Before the implementation of a maximum price, the free market equilibrium price and quantity is P_1 and Q_1 respectively
- With an effective price ceiling being set at P_{\max} , the quantity supplied falls to Q_2 while the quantity demanded rises to Q_3 , resulting in a shortage of $Q_3 - Q_2$
- As the quantity exchanged is limited by the quantity supplied, the amount transacted will be Q_2
- Before the price ceiling, CS is equal to area ABP_1 while after the price ceiling and assuming no black market, CS is equal to area $ACDP_{\max}$, thus the change in the CS is equal to area $(P_1FDP_{\max} - CBF)$. Thus the change in CS is indeterminate. Based on the above diagram, there is an increase in the CS.
- Before the price ceiling, PS is equal to area P_1B0 while after the price ceiling, PS is equal to area $P_{\max}DO$, thus the decrease in the PS is equal to area P_1BDP_{\max}

Level	Descriptors	Marks
L3	<ul style="list-style-type: none"> • Covers BOTH subsidy AND price ceiling • Analyses the impact on BOTH consumer surplus AND producer surplus • Explains with relevant diagrams • Analyses with detail and rigour 	8-10
L2	<ul style="list-style-type: none"> • Lacking in any one of the L3 criterions 	5-7
L1	<ul style="list-style-type: none"> • Largely irrelevant response • Descriptive response which lack application of economic concepts or theory • Serious and pervasive conceptual errors 	1-4

(b) In view of rising fuel prices, discuss whether the Malaysian government should reintroduce petrol and diesel subsidies or a price caps to keep fuel prices in check. [15]

Introduction

- Rising fuel prices raises the cost of transportation for motorists in Malaysia, thus reducing the real income and hence material living standards of Malaysian households
- Subsidies and price ceiling are alternative policies which can be used to lower fuel prices to counter the effects of such cost-push inflation
- To assess the suitability of the mentioned policies, the concepts of (1) efficiency (2) equity and (3) budgetary as well as political considerations will be used as criterions

Efficiency

- In the absence of market failure, government intervention in a free market will be distortionary and thus result in deadweight (welfare) losses
- In the case of a subsidy, such welfare losses arise from over production and consumption while the welfare losses due to a price ceiling arises from under production and consumption
- For the same amount of price reduction, the main determinant affecting the size of the welfare loss is the price elasticities of demand (PED), where a reduction in the PED value will reduce the welfare losses of a subsidy but raise the welfare losses of a price ceiling (illustrate with diagram)
- Given that Malaysia does not have a well-developed public transport system, the demand for private transport and hence the demand for motor fuels is likely to be highly price inelastic, hence the welfare losses arising from a fuel subsidy is likely to be lower than that of a price cap
- Furthermore, as a price ceiling leads to shortages, resources are required to prevent potential black markets, so the cost of such resources which are used for non-productive activities needs to be factored in as welfare losses when price caps are used

Equity

- As shown in part (a), a subsidy benefits both consumers and producers while a price ceiling benefits consumers at the expense of producers
- Given that fuel retailers tend to be large oligopolistic firms like Shell and Petronas, whose shareholders tend to be more well off than the average motorist, a price cap should overall redistribute welfare from the rich to the poor resulting in a more equitable outcome
- Similarly, as the PED of motor fuels is likely to be highly inelastic, motorists should also overall benefit much more from the subsidy than petrol companies, so a fuel subsidy is likely to also be equitable as well.

Budgetary and political considerations

- Given that the subsidy requires explicit funding whereas a price cap appears to be cost free, the former should put a greater strain on the Malaysian government's budget than the latter
- However, given that the PED of such fuels is likely to be very low, only a small subsidy quantum is required to achieve a large price reduction, so the total subsidy spending may not be that much
- Furthermore, as the government may need to hire resources to prevent a potential black market, there could be substantial hidden costs associated with the implementation of a price ceiling
- As for political considerations, a subsidy will be definitely more popular than a price cap as both consumers and producers benefit from a subsidy as compared to a price cap where only consumers benefit while producers suffer
- Furthermore, shortages will cause consumers to be frustrated as they need to waste time queuing for petrol, so a price cap will likely be highly unpopular in the long run

Conclusion / evaluation

- As the PED of fuel is likely to be very low in Malaysia, a subsidy will likely be more efficient than a price cap, both policies are likely to be comparatively equitable and the total government spending required for a subsidy may not be that substantial
- Also, given that a subsidy is also likely to be politically much more popular than a price cap, it seems obvious that the former will likely be the policy of choice for the Malaysian government
- However, given that motor fuels are only sold by a few large oil companies in Malaysia, the monitoring and enforcement cost of anti-black market measures are likely to be quite low
- As these policies were initially removed due to fiscal budgetary constraints, I would argue that the Malaysian government would more likely reintroduce price caps than subsidies, despite the latter being overall less distortionary and more popular

Level	Descriptors	Marks
L3	<ul style="list-style-type: none"> Analyses the outcomes of BOTH subsidy AND price ceiling Provides a balanced response that argues for and/or against each policy Analyses the policies using economic concepts or theory Analyses with detail and rigour Illustrates with context specific examples 	8-10
L2	<ul style="list-style-type: none"> Lacking in any one of the L3 criterions 	5-7
L1	<ul style="list-style-type: none"> Largely irrelevant response Descriptive response which lack application of economic concepts or theory Serious and pervasive conceptual errors 	1-4
E3	<ul style="list-style-type: none"> Takes a stand on which policy should be implemented by substantiating with convincing arguments that compare most of the points covered 	4-5
E2	<ul style="list-style-type: none"> Takes a stand on which policy should be implemented by evaluating one or two criterions without comparing the relative importance of most of the points covered 	2-3
E1	<ul style="list-style-type: none"> Evaluative comments that are not substantiated, poorly substantiated or are not directly relevant to the requirements of the question 	1

- 3. International trade is a driving force behind economic growth. According to the World Trade Organization (WTO), there are around 420 regional trade agreements in force around the world in 2016 in which barriers to trade and foreign direct investment are lowered.**

- (a) Explain the cost savings for firms and industries that might arise when their countries are in regional trade agreements. [10]**

Introduction

- Regional trade agreements (RTAs) allow firms and industries in a country to gain tariff free access to the markets of the RTA partner countries
- This raises their exports and hence output, thus enabling them to expand their scale of production to reap internal and external economies of scale (EOS) respectively

Internal Economies of Scale

- When a firm expand its production scale, it is able to enjoy both technical and non-technical EOS
- Technical economies may arise due to factor indivisibilities e.g. some types of capital goods (e.g. an assembly line) are large and costly, so a greater scale allows the fixed cost of purchasing such equipment to be spread over a greater output
- Non-technical economies may arise due to marketing economies, where an increase output enables a chocolate manufacturer to purchase inputs like cocoa beans at a lower cost per unit because it is able to obtain higher bulk discounts from cocoa suppliers

External Economies of Scale

- When an industry expand its output, the firms in that industry may enjoy cost savings in the form of external economies of scale, even if the firm itself does not increase in its size
- For example, when a technologically intensive industry such as pharmaceuticals expands, it becomes profitable for supporting firms that focus on specific types of research (e.g. animal testing) to be set up to supply their services to main pharmaceutical firms
- As such supporting firms supply their services to many firms, they will reap internal economies of scale, which then lowers the cost of producing such research as compared to each pharmaceutical firms operating its own animal testing facility (economies of disintegration)
- It also prevents wasteful duplication as there is now only one research lab shared by many firms as compared to each firm setting up its own lab, thus saving resources for the entire sector

Cost savings due to other reasons

- RTAs allow a firm / industry (e.g. car manufacturer / manufacturing) to gain access to cheaper raw materials (e.g. steel) as well as intermediate inputs (e.g. batteries) as they can now be imported tariff free from the RTA partner countries
- Finally RTAs often involve to the removal of barriers to foreign direct investments (FDI), which enables firms and industries to gain access superior foreign technology and production processes, thus leading to higher productivity and hence lower marginal cost.

Level	Descriptors	Marks
L3	<ul style="list-style-type: none"> • Analyses how cost savings may arise from internal EOS, external EOS AND at least one other possible reason • Explains using economic concepts and theory • Explains with detail and rigour • Illustrates with relevant examples 	8-10
L2	<ul style="list-style-type: none"> • Lacking in any of the L3 criteria 	5-7
L1	<ul style="list-style-type: none"> • Largely irrelevant response • Descriptive response which lack application of economic concepts or theory • Serious and pervasive conceptual errors 	1-4

(b) Discuss the likely impact of regional trade agreements on the profitability and efficiency of firms. [15]

How may RTAs raise the profitability of firms?

- Cost savings mentioned in part (a) → ↓ MC & ↓ AC → ↑profits
- Access to larger market → ↑ AR & ↑MR → ↑profits
- Illustrate above scenarios with price setting firm diagram

How may RTAs lower the profitability of firms?

- ↑ Competition from foreign firms → ↓AR and ↓MR and the curves become flatter (more price elastic) → ↓profits
- ↑Foreign competition for resources → ↑ price of resources → ↑ MC & ↑AC → ↓profits.
- Illustrate above scenarios with price setter diagram

How may RTAs improve the efficiency of firms?

- ↑ Foreign competition
 - ↑Availability of substitutes → ↓DD & ↑PED → ↑allocative efficiency (AE)
 - ↓Profits → ↓organisational slack → ↓ X- inefficiency → ↑productive efficiency (PE)
- ↑ Foreign funding for R&D → ↑ dynamic efficiency (DE)

How may RTAs worsen the efficiency of firms?

- Domestic firms wiped out by foreign competition → ↑DD & ↓PED of foreign monopoly → ↓AE
- ↑Foreign competition → ↓ output/scale of domestic firms → ↓internal EOS → leftwards movement away from MES (min LRAC) → ↓PE
- ↑Foreign competition → ↓profits for domestic firms → ↓R&D → ↓DE.

What is the likely overall impact on profitability and efficiency (evaluation)?

- Much of the outcome on profits and efficiency depends on the ability of local firms to effectively compete with foreign firms when the domestic market is open to greater foreign competition
- As countries generally specialize according to their comparative advantage, firms of a country will more likely benefit from RTAs if the RTA partner countries are at different stages of development or have different resource endowments as they are less likely to be producing competing goods
- In such a situation, the profits and efficiency gains arising from lower costs and larger market size is likely to outweigh the harm done by increased foreign competition
- Hence, I would argue in conclusion that RTAs are more likely raise the profitability and efficiency of firms if RTAs consists of countries that have significantly different economic structures

Level	Descriptors	Marks
L3	<ul style="list-style-type: none"> • Analyses the impact of RTAs on BOTH profitability AND efficiency • Provides a balanced response that argues for AND against each criterion • Analyses the impact using economic concepts or theory • Explains with detail and rigour and using relevant diagrams 	8-10
L2	<ul style="list-style-type: none"> • Lacking in any one of the L3 criterions 	5-7
L1	<ul style="list-style-type: none"> • Largely irrelevant response • Descriptive response which lack application of economic concepts or theory • Serious and pervasive conceptual errors 	1-4
E3	<ul style="list-style-type: none"> • Takes a stand on the overall impact on BOTH profitability AND efficiency • Substantiates stand with convincing arguments that compares most of the points covered 	4-5
E2	<ul style="list-style-type: none"> • Takes a stand on the overall impact on EITHER profitability OR efficiency • Substantiates stand by evaluating one or two points without comparing the relative importance of most of the mentioned points 	2-3
E1	<ul style="list-style-type: none"> • Evaluative comments that are not substantiated, poorly substantiated or are not directly relevant to the requirements of the question 	1

4. In April 2016, despite 18th consecutive months of negative inflation arising from lower oil and car prices and a soft property market, the Singapore government did not show any intention of intervening to boost prices. On the other hand, Japan embarked on another round of extensive monetary expansion as the familiar 25 year-old threat of deflation resurfaced after a brief period of consumer price growth.

(a) Explain the possible causes of deflation. [10]

- Introduction
 - Deflation is defined as a sustained decrease in the general price level.
 - The aggregate demand (AD) and aggregate supply (AS) model will be used to explain how deflation occurs.

Decrease in AD	Increase in SRAS / LRAS
<ul style="list-style-type: none"> • AD ↓ due to a ↓ in any of the 4 AD components <ul style="list-style-type: none"> ◦ ↓Consumption - ↓confidence, ↑ interest rates, ↑ income tax ◦ ↓Investment – ↓confidence, ↑interest rates, ↑corporate tax ◦ ↓Government expenditure - austerity measures ◦ ↓Net exports – recession in export markets, appreciation of currency • Explain with diagram showing how ↓AD → ↓GPL 	<ul style="list-style-type: none"> • SRAS ↑ due to ↓unit cost of production e.g. <ul style="list-style-type: none"> ◦ ↓Prices of imported FOPs like oil ◦ ↑Labour productivity > ↑wages. • ↑ Quantity or quality of FOP → ↑LRAS → if AD unchanged → ↓GPL e.g. <ul style="list-style-type: none"> ◦ Finding new deposits of natural resources like crude oil ◦ Excessive investment in productive capacity in previous time periods • Explain with diagram showing how ↑SRAS and ↑LRAS → ↓GPL

Level	Descriptors	Marks
L3	<ul style="list-style-type: none"> • Covers BOTH demand AND supply factors • Explains using economic concepts or theory • Explains with detail and rigour • Illustrates with relevant examples AND diagrams 	8-10
L2	<ul style="list-style-type: none"> • Lacking in any of the L3 criteria 	5-7
L1	<ul style="list-style-type: none"> • Largely irrelevant response • Descriptive response which lack application of economic concepts or theory • Serious and pervasive conceptual errors 	1-4

(b) Discuss the different approaches used by the two governments. [15]

Introduction

- Governments are tasked with steering their respective economies to achieve various macroeconomic goals, of which one is price stability.
- As deflation results in price instability, governments should intervene if this problem is serious.
- This essay will analyse the reasons that the Singapore and Japanese governments would likely have considered in deciding on their respective approaches in dealing with the types deflation that they had experienced.

Japan

- Why was there a need for intervention?
 - In the Japanese case, the decision to use expansionary monetary policy implies that deflation was caused by fall in AD.
 - Such deflation was harmful because the fall in GPL was accompanied by negative growth
 - The preamble further states that deflation had been a threat for 25 years, which would likely have resulted in a deflationary spiral where consumers withheld consumption as they expected prices to fall further
 - Such self-reinforcing deflationary pressures would have cause continued declines in AD, thus leading to prolonged contractionary pressures.
- How does Japan's policy approach work?
 - This fear of a renewed deflationary spiral prompted the Japanese government to react aggressively, thus embarking on a new round of “extensive” monetary expansion.
 - This typically involves the lowering interest rates with the aim of incentivising borrowing by households and firms for consumption and investments
 - Lower interest rates also lead to hot money outflows which causes the Yen to depreciate
 - Assuming that demand for exports and imports are both price elastic, a depreciation of the Yen will cause Japan's net exports to rise
 - Rising consumption investment and net exports will then boost AD
 - If the economy is operating near or at full employment, general price levels will rise in tandem, thus countering deflation.
- What are the limitations of such an approach?
 - If current interest rates are already very low, e.g. less than 1%, there's limited room for interest rates to be cut further
 - With the prolonged threat of deflation mentioned in the preamble, consumer and investor confidence in Japan is likely to be weak, so the demand for consumption and investment are likely to be highly interest inelastic

Singapore

- Why did the Singapore government not intervene?
 - From the preamble, the deflation experiences by Singapore was partly due to falling oil prices
 - As Singapore imported crude oil from overseas, falling oil prices would translate to a decrease in energy and transportation costs and thus shifting the SRAS downwards
 - Such deflation was benign because actual growth would rise even though GPL had fallen, so there was arguably no need for the Singapore government to intervene.
 - Singapore's deflationary pressures also stemmed from falling property and car prices
 - This could have caused headline inflation to be negative but core inflation to remain positive
 - Property and car prices in Singapore are volatile due to proactive government policies to manage property bubbles and vehicle population (and therefore traffic congestion)
 - As only a small fraction of the population would be buying cars or property at any given point in time, the impact of changes in property and car prices would have minimal impact on the real purchasing power of most Singaporean residents
 - Hence core inflation would have been a better measure of the deflationary pressures that were actually being experienced by most Singapore firms and households
 - Unless core inflation was also negative, negative headline inflation was not good enough a reason to warrant any government intervention

- Why could be some concerns regarding Singapore's lack of intervention?
 - Property and cars are likely to be highly income elastic as such goods tend to be seen as luxury goods given the acute scarcity of land in Singapore.
 - Hence falling property and car prices could be useful indicators of a weakening in the economic outlook of households
 - A lack of intervention could mean that the Singapore government might have failed to accurately interpret current and future economic expectations and thus missed the opportunity to counter a potential economic downturn

Conclusion (evaluation)

- Given the weak economic outlook in Japan, monetary expansion is unlikely to be effective in countering deflation due to high interest insensitivity
- Expansionary fiscal policy would probably be better as it would have at least guaranteed a first round of injection in terms of public spending
- However, given the high public debt levels of the Japan, running even larger fiscal deficits might result in serious debt related problems in the future
- Hence monetary expansion is in my opinion the only feasible option at this juncture
- As falling oil prices were beneficial to the Singapore economy while falling car and property prices were unlikely to have much impact on price expectations, the Singapore government's position of non-intervention was arguably warranted
- Although car and property prices could have been useful bell-weathers for future economic performance, there are other economic indicators such as consumer and business perception surveys which are more targeted and hence more accurate
- Unless such indicators also suggested that the Singapore was heading for a potential downturn, my view is that the current non-interventionist approach was in general economically justifiable

Level	Descriptors	Marks
L3	<ul style="list-style-type: none"> • Analyses the approaches of BOTH Japan AND Singapore • Provides a balanced response that analyses the rationales, mechanics AND limitations of such approaches • Analyses the approaches using economic concepts or theory • Explains with detail and rigour • Illustrates with relevant diagrams and examples 	8-10
L2	<ul style="list-style-type: none"> • Lacking in any one of the L3 criterions 	5-7
L1	<ul style="list-style-type: none"> • Largely irrelevant response • Descriptive response which lacks application of economic concepts or theory • Serious and pervasive conceptual errors 	1-4
E3	<ul style="list-style-type: none"> • Takes a stand on the suitability of the approaches employed by BOTH Japan AND Singapore • Substantiates stand with relevant and convincing arguments that compares most of the points covered 	4-5
E2	<ul style="list-style-type: none"> • Takes a stand on the suitability of the approaches employed by EITHER Japan OR Singapore • Substantiates stand by evaluating one or two points without comparing the relative importance of most of the mentioned points 	2-3
E1	<ul style="list-style-type: none"> • Evaluative comments that are not substantiated, poorly substantiated or are not directly relevant to the requirements of the question 	1

5. In 2016, the Singapore government raised the personal income tax rate for the top income earners of a chargeable annual income of over S\$320,000 from 20 percent to 22 percent. At the same time, those who earned a chargeable annual income of S\$28,000 and below automatically received a higher amount of Goods and Services Tax (GST) cash voucher. Besides, the government expected a deficit of S\$5.6 billion (1.4% of GDP) and thus Fiscal Year 2016 was an expansionary budget.

Assess the importance of automatic fiscal stabilisers in determining whether discretionary fiscal policy should be used to reduce business cycle fluctuations and achieve inclusive growth in Singapore. (25m)

How do automatic fiscal stabilizers reduce business cycle fluctuations and achieve inclusive growth?

- During a recession, household income falls, which pushes them into lower tax brackets, thus causing them to pay proportionately less taxes
- Those who become unemployed will probably not pay any income tax but will instead receive welfare payouts in terms of unemployment benefits.
- Such reduction in withdrawals and increases in injections have expansionary effects on the economy, which reduces the severity of the economic downturn.
- When the economy is booming, households' incomes rise thus pushing them up into higher tax brackets which causes them to pay proportionately more taxes
- The formerly unemployed have now found jobs and will stop receiving unemployment benefits
- Such hikes in withdrawals and declines in injections will instead have a contractionary effect on the economy, which helps to bring down inflationary pressures
- Automatic stabilizers work because of the progressive nature of income taxes and welfare benefits, which are fiscal structures that are primarily used to reduce income inequality by redistributing income from the rich to the poor, i.e. to promote inclusive growth
- By raising the progressiveness of such fiscal structures, the impact on promoting inclusive growth and reducing business cycle fluctuations will be enhanced

How can discretionary fiscal policy be used to reduce business cycle fluctuations and achieve inclusive growth?

- During a recession, raising government spending and cutting direct taxes like personal income taxes and corporate taxes will stimulate consumption and investment respectively
- Through the multiplier effect, these initial injections into the economy will result in subsequent rounds of induced consumption, causing AD and output to rise even further
- When there is demand-pull inflation, government spending can be intentionally curtailed and direct taxes intentionally raised to curb consumption and investment
- Through the multiplier effect, these initial withdrawals will result in subsequent rounds of reduction in induced consumption, causing AD and output to fall even further
- To promote inclusive growth, discretionary fiscal policies can be used in a way that also aims to achieve more equitable outcomes
- For example, when combating a recession, the government can choose to provide more transfers to and collect less taxes from lower income households
- When fighting demand pull inflation, the government can raise income tax rates only for the higher income tax brackets and reduce spending that tends to benefit the rich more

How strong and progressive are Singapore's automatic stabilizers?

- As economies with very progressive taxation regimes and generous welfare payments have stronger stabilizing effects, the need for discretionary policies to achieve macroeconomic stability is therefore reduced
- In the case of Singapore, the government does not provide any unemployment benefits and personal income tax rates are low and much less progressive as compared to many other developed countries
- This means that the stabilizing and redistributive effect of Singapore's fiscal structure is quite weak so there is a greater need for discretionary fiscal policy to be used to reduce macroeconomic fluctuations and promote inclusive growth

Why does the Singapore government then not rely on discretionary fiscal policy to reduce business cycle fluctuations and achieve inclusive growth?

- The Singapore government does not use discretionary fiscal policy to reduce macroeconomic stability because it has a very small injection multiplier
- The small multiplier is due to high marginal propensities to import and save as Singapore lacks natural resources and has a system of enforced (CPF) savings that are used for the financing retirement and housing
- Instead of fiscal policy, Singapore relies on short run supply-side policies like wage subsidies to help minimize unemployment during a economic downturn and revalues its currency to combat both demand-pull and more importantly imported cost-push inflation
- As for inclusive growth, instead of giving large handouts to the poor, the Singapore focuses on training and upskilling to enable low wage workers to raise their productivity and upgrade to higher value-added and hence better paying jobs

How important are automatic stabilizers in determining the use of discretionary fiscal policy in Singapore to reduce business cycle fluctuations and achieve inclusive growth?

- Although her automatic stabilizers are weak, Singapore does not rely on discretionary fiscal policy largely because of its small multiplier value
- Hence automatic stabilizers are in my opinion, an insignificant factor in determining Singapore's choice of macroeconomic stabilization policies
- As for inclusive growth, the main reason for relying on supply-side policies rather than discretionary redistributive fiscal measures is that the former will likely to have a longer lasting impact on raising the welfare of the poor than the mere giving of handouts
- Thus, automatic stabilizers are also arguably unimportant in determining Singapore's choice of policies to achieve inclusive growth

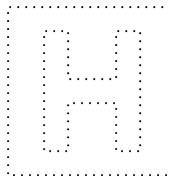
Level	Descriptors	Marks
L3	<ul style="list-style-type: none"> • Addresses BOTH aims of reducing business cycle fluctuations AND achieving inclusive growth • Analyses how automatic stabilisers AND discretionary fiscal policy can be used to achieve such aims • Analyses other possible reasons for Singapore's choices of policies used to achieve such aims • Explains using economic theory or concepts • Explains with detail and rigour • Illustrates with relevant diagrams and examples 	16-20
L2	<ul style="list-style-type: none"> • Lacking in any one of the L3 criterions 	10-14
L1	<ul style="list-style-type: none"> • Largely irrelevant response • Descriptive response which lack application of economic concepts or theory • Serious and pervasive conceptual errors 	1-8
E3	<ul style="list-style-type: none"> • Evaluates the importance of automatic fiscal stabilisers by comparing it with other plausible reasons for Singapore's policy choices 	4-5
E2	<ul style="list-style-type: none"> • Evaluates the importance of automatic fiscal stabilisers without comparing with other plausible reasons for Singapore's policy choices 	2-3
E1	<ul style="list-style-type: none"> • Evaluative comments that are not substantiated, poorly substantiated or are not directly relevant to the requirements of the question 	1

- 6. In recent years, the refugee crisis is slowly undoing decades of economic integration by generating a new wave of protectionism that is believed to have shocked the global economy.**

Discuss the likely impact of protectionism on the economic growth, inflation and standard of living of an economy.[25]

Positive impact on the economy	Adverse impact on the economy
<p>Perpetrator country</p> <ul style="list-style-type: none"> • $\downarrow M \rightarrow \uparrow(X-M) \rightarrow \uparrow AD \rightarrow \uparrow$ growth & \downarrow unemployment $\rightarrow \uparrow$ material SOL • Protect sunrise industries \rightarrow gain CA over time $\rightarrow \uparrow X$ of higher value-added goods $\rightarrow \uparrow$ terms of trade $\rightarrow \uparrow$ material SOL • Protect sunset industries \rightarrow prevent structural unemployment \rightarrow prevent material SOL from $\downarrow g$ • \downarrow Unemployment \rightarrow less stress for the unemployed $\rightarrow \uparrow$ non-material SOL 	<p>Perpetrator country</p> <ul style="list-style-type: none"> • \downarrow Access to cheaper or better imported capital goods $\rightarrow \downarrow$ quantity or quality of K $\rightarrow \downarrow$ LR growth \rightarrow slower \uparrow in material SOL • Tariffs on imported inputs $\rightarrow \uparrow$ costs of production $\rightarrow \downarrow$ SRAS $\rightarrow \uparrow$ inflation, \downarrow growth & \uparrow unemployment $\rightarrow \downarrow$ material SOL. • $\downarrow M \rightarrow \uparrow(X-M) \rightarrow \uparrow AD \rightarrow \uparrow DD$ pull-inflation $\rightarrow \downarrow$ material SOL • \downarrow Intra industry trade $\rightarrow \downarrow$ product variety $\rightarrow \downarrow$ material SOL • Tariff diagram: \downarrow consumer surplus and overall welfare losses $\rightarrow \downarrow$ material SOL. •
<p>Victim country</p> <ul style="list-style-type: none"> • $\downarrow X \rightarrow \downarrow AD \rightarrow \downarrow$ DD-pull inflation \rightarrow slower \downarrow in material SOL • \downarrow Inflation \rightarrow less stress for all households especially the poorer ones who find it harder to cope with inflation \rightarrow slower \downarrow in non-material SOL • $\downarrow X$ for countries that export goods which cause pollution when produced $\rightarrow \downarrow$ externalities $\rightarrow \uparrow$ non-material SOL 	<p>Victim country</p> <ul style="list-style-type: none"> • $\downarrow X \rightarrow \downarrow AD \rightarrow \downarrow$ growth & \uparrow unemployment $\rightarrow \downarrow$ material SOL
<p>All countries</p> <ul style="list-style-type: none"> • \downarrow Economic outlook $\rightarrow \downarrow I \rightarrow \downarrow$ capital accumulation \rightarrow adverse effect on LRAS $\rightarrow \downarrow$ potential growth \rightarrow slower \uparrow in material SOL. • Retaliation $\rightarrow \downarrow X$ and AD for all countries involved in the trade war $\rightarrow \downarrow$ material SOL • \downarrow Specialisation according to CA $\rightarrow \downarrow$ consumption possibilities $\rightarrow \downarrow$ material SOL. 	
<p>Evaluation:</p> <ul style="list-style-type: none"> • In my opinion perpetrator countries are more likely to benefit if their protection is targeted at specific sectors with the aim gaining CA or preventing structural unemployment as compared to indiscriminate tariffs on all imports • On the other hand, victim countries are more likely to benefit if their economies are overheating but more likely to suffer if they are already facing an economic downturn • However, given that protectionism hampers specialisation according to CA which reduces overall efficiency in global resource allocation and also tends to lead to mutually destructive trade wars, I would argue that the overall impact is more likely to be adverse than beneficial in the long run. 	

Level	Descriptors	Marks
L3	<ul style="list-style-type: none"> Analyses the impact on growth, inflation AND living standards Analyses impact on BOTH material AND non-material living standards Provides a balanced response that covers BOTH positive AND adverse impacts Explains using economic concepts or theory Explains with detail and rigour 	16-20
L2	<ul style="list-style-type: none"> Lacking in any one of the L3 criterions 	10-14
L1	<ul style="list-style-type: none"> Largely irrelevant response Descriptive response which lack application of economic concepts or theory Serious and pervasive conceptual errors 	1-8
E3	<ul style="list-style-type: none"> Takes a stand on the overall impact of protectionism on an economy Substantiates with relevant and convincing arguments that compares most of the points covered 	4-5
E2	<ul style="list-style-type: none"> Takes individual stands on impact on growth, inflation OR living standards Substantiates by evaluating one or two points without comparing the relative importance of most of the points covered 	2-3
E1	<ul style="list-style-type: none"> Evaluative comments that are not substantiated, poorly substantiated or are not directly relevant to the requirements of the question 	1



INNOVA JUNIOR COLLEGE
JC 2 PRELIMINARY EXAMINATION
in preparation for General Certificate of Education Advanced Level
Higher 2

ECONOMICS

9757/01

Paper 1

29 August 2018

2 hours 15 minutes

Additional Materials: Writing Paper and Cover Page

READ THESE INSTRUCTIONS FIRST

Write your name and class on all the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid/tape.

Answer **all** questions.

Please begin each question on a **fresh sheet of paper**.

At the end of the examination, **submit each case study question separately**.

Attach a **cover page** to **each case study question** and write the **question number** on the cover page.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question.

You are advised to spend several minutes reading through the data before you begin writing your answers.

You are reminded of the need for good English and clear presentation in your answers.

This document consists of **7** printed pages and **1** blank page.

Answer all questions

Question 1

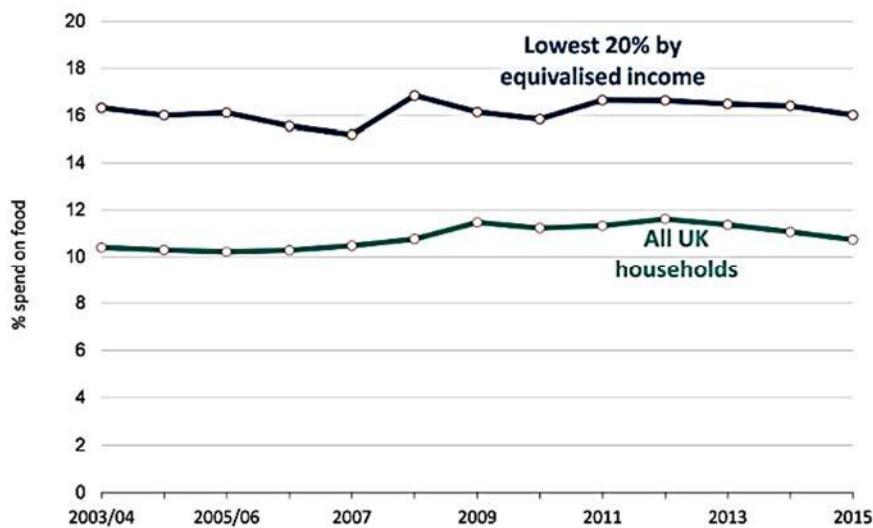
United Kingdom's Food and Drinks Industry and Brexit

Table 1: Estimates for elasticities of demand for various items in the UK

	Price elasticities of demand	Income elasticities of demand
Bread and cereal	-0.14	0.17
Fruit and vegetable	-0.22	0.28
Meat	-0.28	0.35
Beverage and tobacco	-0.35	0.43

Source: Economic Research Service, United States Department of Agriculture

Figure 1: Trend in share of spending going on food in low income and all UK households



Source: <https://www.gov.uk>, accessed 10th August 2018

Extract 1: Trends in UK food and non-alcoholic drinks prices

In the UK, food and non-alcoholic drinks have risen in price since 2007, with rises ranging from 17% to 41%. Successive spikes in the price of agricultural commodities since 2007 have led to higher retail food prices. They have not returned to the low price levels of pre-2007. Food price rises have a strong effect on food shopping for low income households.

Source: <https://www.gov.uk>, accessed 10th August 2018

Extract 2: Food industry shaken by Brexit prospects

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Business and consumer confidence in the food and drink industry, by far the largest manufacturing sector in the UK, is increasingly fragile since the upheaval caused by the Brexit vote, with the UK voting to leave the European Union (EU). Despite climbing sales, three-quarters of Food and Drink Federation (FDF) members have reported soaring ingredient prices, plummeting product margins and concerns for the future raised by their EU workforce. This trend is expected by most companies to continue over the next year.

The FDF's UK-based members range from giant brands such as Coca-Cola and McVitie's to small-scale producers such as the oatcake maker Maclean's Highland Bakery. The above findings reflected the sentiment of a third of its members including small, medium and large food and drink manufacturers.

It is calling for an "industrial strategy partnership" with government and for urgent assurances for the industry's workforce from the EU that they will have the right to remain in the UK. 71% of companies employing EU staff say these employees have expressed concerns about Brexit, with about 8.7% businesses reporting that their EU employees intend to leave the UK. An estimated 130,000 of the industry's 400,000 workforce are non-UK nationals – many from Eastern Europe, often doing valued seasonal work in agriculture and factories.

"We share government's view that we need to make the best of Brexit," said the FDF's director general Ian Wright. "Food and drink industry confidence is low. Slower revenue growth, coupled with prolonged business uncertainty, is affecting the industry's ability to invest."

The FDF is also calling for urgent action from the government to ensure that essential imports of ingredients and raw materials from the EU and EU Free Trade Agreement (FTA) countries do not face tariffs or costly non-tariff barriers. Some British-based businesses have benefited from the weaker pound, which makes their exports more competitive – as long as they still have tariff-free access to the single European market.

Source: The Guardian, 12 Oct 2016

Extract 3: Industry leaders' views on the implications of Brexit

Ian Wright of FDF said Brexit could lead to price increases by as much as 10%, and would result in reduced choice, availability and profitability of food and drink for UK consumers and businesses alike.

Andrew Kuyk, Director General of PTF highlighted that any tariffs would have major implications across the food chain. He said that could result in shortages and increased prices, particularly in the short term, as the UK is not self-sufficient in many areas of the food chain. Even where the UK produces enough raw material to supply the demand they may not have physical production capacity or labour ability to make that work – and developing this all takes time and needs a level of confidence. Food manufacturers and retailers often need 12 - 18 months' supply agreements particularly for certainty of supply through their relationships with primary producers.

Source: <https://www.bordbia.ie>, accessed 10th August 2018

Extract 4: UK exports and trading partners

International trade really matters to UK economy and the government must use all resources available to boost exports in a post-Brexit UK. About 28% goods produced in the UK are sold abroad, with the main trading partners being the EU countries and the United States. The one exception to Western countries dominance of the top UK trade partners is China, which comes in

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sixth for exports. UK export a wide range of goods, including food and drink, machinery and parts, cars, jewellery, medicines and plastics. While export of goods are still ahead, service exports, which include financial services, IT services and tourism are increasingly important and they have grown every year.

Source: www.bbc.com/news/business, accessed 10th Aug 2018

Extract 5: New directions for post-Brexit UK

At present, products move freely across the border between the UK and other EU member states. As all EU member states have access to the Single Market, there are no tariffs, quotas or taxes on trade and the free movement of goods, services, capital and people. As the UK leaves the EU, the UK government will need to negotiate several new trade deals with her European trade partners and with other countries.

Brexit will therefore allow the UK to set its own trade and investment policies, however there could be costs in doing so on its own rather than as part of a group of countries, meaning whether the UK's trade negotiating strength and efficiency would be greater outside the EU is uncertain. On the one hand, concluding deals might be easier for the UK alone, given the greater diversity of interests involved when the EU negotiates as a group. On the other, the smaller size of the UK market may mean other countries give higher priority to deals with the EU. There are claims that Brexit will offer UK the opportunity to grow their exports. For example, the food and drinks sector can improve the national defences against plant and animal diseases and benefit from the latest scientific advances with the UK government supporting the nation's food producers more effectively. However nothing will be certain until negotiations formally begin.

Source: willistowerswatson.com, accessed 10th August 2018

Questions

- (a) Explain why all the price elasticities of demand values in Table 1 are negative. [2]
- (b) With reference to Table 1, explain the impact on UK consumers' spending on meat when there is
 - (i) an increase in the price of meat, [2]
 - (ii) a recession. [2]
- (c) With reference to Figure 1 and the use of the concept of opportunity cost, compare the effect of a rise in price of food on lower income UK households and other UK households. [4]
- (d) Explain the likely impact of Brexit on the UK consumers' welfare. [2]
- (e) Discuss the extent to which the survival of firms in the UK food and drinks manufacturing sector will be adversely affected "as the UK leaves the EU". [8]
- (f) Extract 4 mentions that international trade really matters to UK economy and the government must use all resources available to boost exports in a post-Brexit UK.

Discuss the measures that the UK government can adopt to boost their exports. [10]

[Total: 30]

Question 2

World Second Largest Economy

Extract 6: China overtakes Japan as world's second-largest economy

China has leapfrogged Japan to become the world's second-largest economy, a title Japan has held for more than 40 years. Despite Japan's displacement from second slot, its leadership welcomed the figures as a boost to Asia and as an opportunity for the country's beleaguered exporters.

Chinese incomes are rising: a record 1.41 million Chinese tourists visited Japan in 2010, eager to flaunt their newfound wealth by buying Japanese brand-name goods, from Canon digital cameras to Shiseido cosmetics. Japan now exports more goods to China than to any other country. Shipments to China accounted for 19.4% of total exports last year, with the US accounting for 15.4%.

Source: The Guardian, 14 Feb 2011

Extract 7: Key drivers of China's economic growth

The official view in Beijing is that since 2014 the economy has entered a "new normal condition" of steadier, albeit slower growth. As the economy downshifts, Beijing is trying to wean its dependence on credit-fueled investment and government spending and move instead to a consumer-driven growth model.

In addition, four years after China has declared war against pollution on 4 Mar 2014, China cities have cut concentrations of fine particulates in the air by 32 percent on average. It was reported that in order to reach pollution reduction targets set, China had prohibited new coal-fired power plants in the country's most polluted regions, including the Beijing area. Existing plants were told to reduce their emissions. If they didn't, the coal was replaced with natural gas. Large cities, including Beijing, Shanghai and Guangzhou, restricted the number of cars on the road. The country also reduced its iron- and steel-making capacity and shut down coal mines.

Of course, the current air pollution levels still exceed China's own standards and far surpass World Health Organization recommendations for what is considered safe. Bringing all of China into compliance with its own standards would increase average life expectancies by an additional 1.7 years. Complying with the stricter World Health Organization standards instead would yield 4.1 years.

Source: The New York Times, 19 Jan 2015 & 12 Mar 2018

Table 2: GDP Composition breakdown by percentage

	China		Japan	
	2010	2017	2010	2017

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Consumption Expenditure	48%	53%	77%	76%
Government Expenditure	13%	14%	19%	20%
Export Revenue	26%	20%	15%	16%
Import Expenditure	23%	18%	14%	15%

Source: World Bank

Table 3: Government debt (percentage of GDP)

Year	China	Japan
2010	33.7	207.9
2016	44.3	235.6

Source: International Monetary Fund

Extract 8: The Fiscal Consequences of Shrinking Population

Japan's population of 127 million is forecast to shrink by about one-third in the next five decades. The proportion of over-64-year-olds — currently about a quarter — is expected to reach 38 percent in that time frame, intensifying the financial and care burden on the working-age population.

Currently, in Tokyo, there are twice as many job vacancies as applicants. The government is scrambling to cope, with policies aimed at boosting fertility and support for working mothers, a push for greater job automation and a softening of the nation's traditional aversion to immigration.

Shrinking populations pose a formidable fiscal challenge. Swelling spending on health and pensions mean Japan's unable to rein in public debt that's more than double its gross domestic product. In the government budget, social security accounts for one-third of spending and debt servicing one-quarter.

Source: Bloomberg, 17 May 2017

Figure 2: Japan: Real Wage vs Nominal Wage



Source: OECD

Extract 9: Accelerating Pace of Innovation in China

In recent years, China has become a major hub of innovative products and services.

There are two major categories of innovations in China. The first consists of innovations in manufacturing. In recent years, there has been a remarkable increase in the number of Chinese companies focusing on research and development, of which Huawei Technologies has consistently placed among the top five companies worldwide for the number of patent applications filed for the past decade. In addition to Huawei, Chinese companies like Xiaomi, Oppo, and Vivo are among the global leaders by market share for android smartphones.

The second category involves innovations led by platform companies that have arisen from the digital economy. In the mobile age, major online players like Baidu, Alibaba, and Tencent have used their core applications as launching pads for developing and expanding new services. For instance, Alibaba expanded the functions of its e-commerce site Taobao to launch digital pay app Alipay while Tencent drew on knowhow gained through its desktop messaging software QQ to develop its mobile app WeChat. In addition to small money transactions, these applications allow users to make train, airline, and hotel reservations, access ride sharing and food delivery services and pay for public services.

Among other factors explaining this rush of innovation are China's huge domestic market, the widespread availability of wireless Internet service, government policies supporting innovation, relaxed regulations, and a strong foundation in basic research. China is aiming to become a world leader in such areas as artificial intelligence and use of big data.

Adapted: Nippon.com, 30 Apr & 21 Jun 2018

Questions

- (a) (i) Using Figure 2, account for the difference in Japan's real and nominal wage from 2016 to 2017. [2]

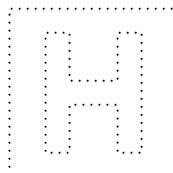
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- (ii) Explain **one** demand and **one** supply factor to Japan's nominal wage trend from 2014 to 2017. [4]
- (b) China's policymakers' has attempted 'to wean its dependence on credit-fueled investment and government spending and move instead to a consumer-driven growth model'. Explain the possible short-term and long-term consequences of the above attempt on China's living standards. [6]
- (c) In the light of the fiscal consequences of the shrinking population, assess the options in which Japan could reduce its government debt. [8]
- (d) Discuss the view that China will eventually achieve sustainable economic growth just because it has become 'a major hub of innovative products and services'. [10]

[Total: 30]

- End of Paper -

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INNOVA JUNIOR COLLEGE
JC 2 PRELIMINARY EXAMINATION
in preparation for General Certificate of Education Advanced Level
Higher 2

ECONOMICS

9757/02

Paper 2

11 September 2018

2 hours 15 minutes

Additional Materials: Writing Paper and Cover Page

READ THESE INSTRUCTIONS FIRST

Write your name and class on all the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid/tape.

Answer **three** questions in total, of which **one** must be from Section A, **one** from Section B and **one** from either Section A or Section B.

Please begin each essay question on a **fresh sheet of paper**.

At the end of the examination, **submit each question separately**.

Attach a **cover page to each essay question** and write the **question number** on the cover page.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question.

You are advised to spend several minutes reading through the data before you begin writing your answers.

You are reminded of the need for good English and clear presentation in your answers.



This document consists of **3** printed pages and **1** blank page.
Answer **three** questions in total.

Section A

One or two of your three chosen questions must be from this section.

- 1 Discuss the likely combined effects of economic growth and a rise in Goods and Services Tax (GST) on consumers and producers in different product markets in Singapore. [25]

- 2 Another firm, Tada has entered Singapore's ride-hailing industry, joining a slew of others which made similar moves following Uber's exit. These firms are going up against the incumbent Grab and the market is set to get even more crowded with Indonesian ride-hailing giant Go-Jek's impending entry.
 - (a) Explain the strategies a firm can adopt to compete in the ride-hailing industry. [10]
 - (b) Discuss whether the entry of new firms in various industries necessarily results in higher society's welfare. [15]

- 3 Markets may not function well when market participants do not have complete and accurate information, or when one market participant has more information than another.
 - (a) Using examples, explain how information failure might cause markets to not function well. [10]
 - (b) Discuss the appropriate measures to tackle information failure in the markets for different type of goods. [15]

Section B

One or two of your three chosen questions must be from this section.

- 4 (a) Explain the limitations of using Real GDP per capita to compare standard of living between countries. [10]
- (b) Discuss whether a depreciation in exchange rate of a country will improve the standard of living of her population. [15]
- 5 Explain why strong economic growth is important but insufficient for most developed economies and discuss appropriate policies governments can adopt to achieve inclusive growth in their societies. [25]
- 6 Globalisation often has influences on economic agents in an economy. Consumers, producers and government are affected by the increase in trade, labour and capital mobility from globalisation.
Discuss whether globalisation will always be desirable to the different economic agents in an economy. [25]

- End of Paper -

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PRELIMINARY EXAMINATION SUGGESTED ANSWERS

IJC Preliminary Examination 2018 Paper 1 Question 1 Suggested Answers

2018 H2 Prelim Case Study Q1

- (a) Explain why all the price elasticities of demand values in Table 1 are [2] negative.

Price elasticity of demand measures the responsiveness of quantity demanded of a good to a change in the price of the good itself. The negative values of the price elasticities of demand reflects the law of demand, which states that the price and quantity demanded of a good are inversely related. For example, as the price of a good like fruit and vegetable changes, the quantity demanded of fruit and vegetable will change in the opposite direction.

Mark allocation

Stating law of demand – 1 mark

Explanation of inverse relationship between price and quantity demanded of a good – 1 mark

Markers' comments

A large number of candidates accounted for the magnitude of PED instead of sign. Hence, many explained factors for $PED < 1$ instead of focusing on the law of demand as the reason gaining no credit for their explanation.

- (b) With reference to Table 1, explain the impact on UK consumers' spending on meat when there is
(i) an increase in the price of meat, [2]

As the PED value of meat is less than 1, a given increase the price of meat will lead to a less than proportionate fall in quantity demanded of meat. Consumers spending on meat, given by Price \times Quantity, will increase as the increase in spending due to increase in price will offset the fall in spending due to a fall in quantity demanded of meat.

Mark allocation

Explanation of meaning of PED value – 1 mark

Explanation of link between increase in price and consumers' spending – 1 mark

Markers' comments

Quite a number wrongly argued that since an increase in the price of meat causes the quantity of meat consumed to fall, there will therefore be less spending on meat without the use of the PED concept to consider which effect will be greater. Some others

PRELIMINARY EXAMINATION SUGGESTED ANSWERS

incorrectly apply the YED concept instead. There is also tendency to confuse a change in demand with a change in quantity demanded.

- (ii) a recession.

[2]

As YED value of meat is positive, a recession, which results in a fall in income, will lead to a fall in the demand of meat as well. Hence, the overall effect will be a fall in the consumer spending of meat as the price and quantity of meat consumed falls.

Mark allocation

Explanation of meaning of YED value – 1 mark

Explanation of link between recession and consumers' spending – 1 mark

Markers' comments

Quite a number used the magnitude of YED instead of the sign. The link between fall in income and fall in demand for food was not made too. Therefore, the impact on total expenditure is incorrectly explained.

- (c) With reference to Figure 1 and the use of the concept of opportunity cost, compare the effect of a rise in price of food on lower income UK households and other UK households. [4]

Opportunity cost of a decision refers to the next best alternative forgone.

A households' income is either spent on food and drinks or other goods and services. With a rise in price of food, the household's expenditure on food increases, as demand for food is price inelastic. There will then be a reallocation of more of household's budget for food and drinks, which means opportunity cost incurred in terms of other goods and services that can be consumed.

As food takes up larger proportion of income of lower income households compared to other households, with the increase in expenditure on food, they will have lesser income left. Hence, lower income households more likely to have to forgo non-essential goods compared to other households incurring greater opportunity cost.

Mark allocation

Explanation of concept of opportunity cost – 1 mark

Explanation of effect of rise in price of food on lower income and other households with the use of Figure 1 – 3 marks

Note:

PRELIMINARY EXAMINATION SUGGESTED ANSWERS

If explanation did not use Figure 1 – max 2 marks

If explanation shows application of the concept of opportunity cost but did not make comparison between lower income and other households – max 3 marks

Markers' comments

There were some excellent responses for this question which demonstrated a clear understanding of the requirements of the question. While most were able to interpret Figure 1, many lost marks as they did not apply the concept of opportunity cost to explain the effect on household spending and make valid comparison.

- (d) Explain the likely impact of Brexit on the UK consumers' welfare. [2]

With Brexit UK is no longer part of the EU and tariff barriers on goods from the countries in the EU will be applicable, raising the prices of imports from the EU, leading to lower consumer surplus. There could also be reduction in choice of goods available to the UK consumers if producers cut down on some types of imports due to greater trade restrictions. Hence, UK consumers' welfare will be lowered as a result.

Mark allocation

For a clear explanation of one impact of Brexit on consumers' welfare.

Markers' comments

Many students applied the concept of standard of living which resulted in imprecise responses. Quite a number merely lifted phrases from the extracts instead of explaining the implications of Brexit on UK before linking it to the impact on consumers' welfare.

- (e) Discuss the extent to which the survival of firms in the UK food and drinks manufacturing sector will be adversely affected "as the UK leaves the EU". [8]

As the UK leaves the EU (Brexit), the firms in the UK food and drinks manufacturing sector could be facing greater cost and revenue pressures which can adversely affect their profits.

As mentioned in Extract 2 and 3, Brexit is likely to lead to rise in cost of production due to rise in wages in the sector as UK faces lower supply of workers with the loss of EU workers and higher cost of imported raw materials with the resulting tariff barriers imposed on imports into UK. At the same time, greater uncertainty about the prospects of UK economy after Brexit has weakened consumers' confidence, possibly resulting in lower demand for food and drinks.

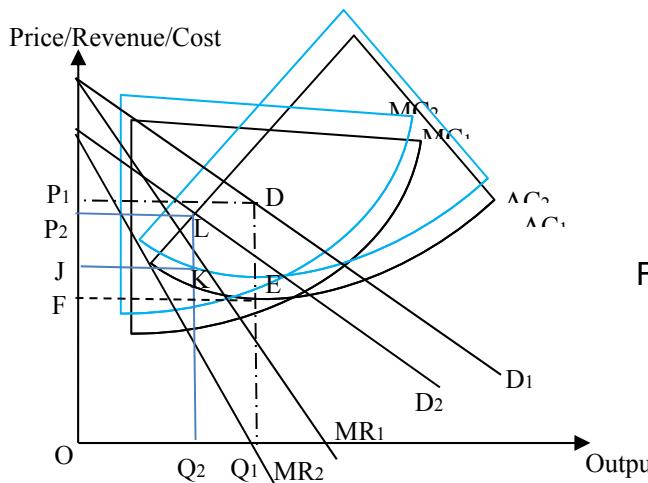


Figure 1

Figure 1 illustrates the effect of the above changes on a firm in the industry. Assuming the firm's objective is to maximize profits, the equilibrium price and output of the firm is given as OQ_1 and OP_1 where $MR_1 = MC_1$. The initial profits earned by the firm is FP_1DE . With the increase in cost of production, the cost curves will shift to MC_2 and AC_2 while the fall in demand will shift the demand and MR curves to D_2 and MR_2 respectively. As such, the new equilibrium output and price is now OQ_2 and OP_2 where $MR_2 = MC_2$. The new profits earned by the firm is lowered as given by JP_2LK . Hence, Brexit might affect the survival of firms adversely.

However, the extent of the effect might vary for different firms in the sector. It depends on how much the firms are impacted by the rise in the cost of production. This in turn depends on how heavily reliant the firms are on imported raw materials for ingredients, labour from the EU and the nature of their production. Firms that are more reliant on imported raw materials, labour from EU are more labour-intensive in their production method are likely to be more adversely affected as their cost of production might rise by a larger extent. As the sector consists of small, medium and large firms (Extract 2), it is likely the initial profit margins of the smaller firms are lower as compared to the large firms. Hence, the smaller firms could find that their total cost rise even to such an extent that they are unable to cover their total revenue and thus less able to survive in the sector as compared to larger firms.

PRELIMINARY EXAMINATION SUGGESTED ANSWERS

It could also be dependent on the availability of strategies for firms to respond to the revenue and cost challenges. To counter the rise in cost of production, firms could either switch to domestic sources for their raw materials, improve the efficiency of their local workers or even switch to less labour-intensive production methods. To address their revenue challenges, firms can consider diversifying their markets overseas to make up for the fall in demand and total revenue. These measures enable them to maintain their profits and therefore survive. However, these measures do not take effect immediately. For example, it was mentioned in Extract 3 that developing some of these “takes time and needs a level of confidence”. It might also depend on the level of capacity of the firms in the sector. Smaller firms might not have as much resources as the larger firms to adopt the measures mentioned above. As such, they might be under more severe threat in the sector as a result of Brexit.

Level	Descriptors	Marks
2	Well-developed and balanced explanation of impact of UK leaving the EU on the firms in the UK food and drinks manufacturing sector. If only considered either revenue or cost aspects – max 4 marks	4 - 6
1	Under-developed explanation of some impact of UK leaving the EU on the firms in the UK food and drinks manufacturing sector with limited reference to context.	1 - 3
	Evaluation	
2	Use of appropriate criteria with relevant use of context to come to a justified stand.	2
1	Unjustified stand with limited/no reference to context.	1

Markers' comments

Overall, responses to this question are either descriptive or involved superficial analysis. While some tried to break down the effects of Brexit on the firms' revenue and cost, subsequent discussion on how the firms' ability to survive was weak, with many using the shutdown condition loosely without much consideration of the context in which this concept can be useful. While most attempt to provide a balanced explanation of why firms may or may not be adversely affected, there was little attempt in majority of the responses to address “the extent” to which the firms are likely to be adversely affected with reference to the case materials.

PRELIMINARY EXAMINATION SUGGESTED ANSWERS

- (f) Extract 4 mentions that international trade really matters to UK economy and the government must use all resources available to boost exports in a post-Brexit UK.

Discuss the measures that the UK government can adopt to boost their [10] exports.

With Brexit, UK would lose its access to the EU market and not be able to enjoy free movement of its products across EU anymore (Extract 5). With tariff barriers imposed on its exports, their goods will become relatively more expensive compared to other EU goods within EU. Hence, UK is likely to find the volume of its exports to EU being reduced as a result. Given that EU countries are major trading partners of UK, the fall in its export revenue is likely to be significant. With international trade being important to the UK economy (Extract 4), it is crucial that the UK government put in place sufficient measures to boost their exports so that the UK economy will not be too adversely affected.

In light of the above, one immediate concern that the UK government needs to address is the continuation of access for UK exports to foreign markets. To achieve this, the UK government will need to initiate negotiation of free trade agreements (FTA) with its trading partners so that tariff barriers can be removed to ensure that UK exports can remain competitive in these markets. This should not only include individual countries in the EU and the US which are UK's major trading partners but also other emerging economies like China which might be of increasing importance to the UK as well. It is important for UK not only to have access to more markets but also to tap on the growth in markets like China to boost the demand for their exports further. With rising income and growing affluence, UK is in a good position to export luxury goods like cars and jewellery to such markets as the demand for luxury goods is likely to be rising faster.

However, the UK government faces some constraints in seeking FTA with its trading partners. As mentioned in Extract 5, "UK's trade negotiating strength and efficiency" as an individual economy could be limited as compared to being in a regional grouping as the other countries might not perceive the UK market to be sizeable enough for their consideration. On the other hand, negotiating FTAs as an individual economy instead of being part of a collective grouping could be more advantageous as there is no longer a need to be bound by the interests of other countries. Thus UK might have greater success in achieving more favourable terms for its trade with the rest of the world.

With the likelihood of Brexit having a negative effect on UK exports and uncertainty surrounding negotiation of FTAs, there is also an urgent need for the UK government to implement supply-side policies to boost

PRELIMINARY EXAMINATION SUGGESTED ANSWERS

productivity and improve the quality of their products to ensure that they become more competitive in the international markets. In particular, the government needs to provide more funding to the key export sectors such as those mentioned in Extract 4. This should provide the needed resources and incentive for the producers in these sectors to engage in research and development and invest in better technology to lower their cost of production and boost their output. As mentioned in Extract 5, with the UK government's support, the food and drinks sector can "improve the national defences against plant and animal diseases and benefit from the latest scientific advances" so that the yield from this sector can be improved.

With UK having factor endowment in terms of highly skilled workers and more advanced technology, its economy is likely to have a comparative advantage in production of goods that are more technology or research-intensive, like cars and medicines as well as services. Such investments could also be directed to further enhance UK's comparative advantage in these areas by lowering the opportunity cost in the production of such goods. The above measures should enable the goods to be priced more competitively. In addition, an improvement in the quality of its goods could lead to lowering of the price elasticity of demand for UK exports, allowing them to withstand competition from other countries' goods in the international markets.

However, the above measures are not likely to take effect in the short term as time is needed for them to work. Hence, there might be a need for the UK government to complement it with another measure in the short run. For example, it was highlighted in Extract 2 that some "businesses have benefited from the weaker pound" as the price of exports becomes relatively lower in terms of foreign currency. However, this is beneficial only for those businesses that are not heavily dependent on imported inputs. Furthermore, as this depreciation was likely to be triggered by loss of confidence due to the prospects of Brexit, further depreciation will weaken confidence which is undesirable for UK's economic outlook. In any case, this measure will only be of limited help in the short run as the more important areas of focus for the UK remains the negotiation of FTA and supply-side policies specifically targeted at the export sector to boost exports in the long run.

Level	Descriptors	Marks
2	Well-developed explanation of the measures the UK government can adopt to boost exports with sufficient scope and reference to the context.	5 - 7

PRELIMINARY EXAMINATION SUGGESTED ANSWERS

1	Undeveloped explanation of the measures the UK government can adopt to boost exports with limited reference to the context. OR A well-developed explanation of only one measure.	1 – 4
	Evaluation	
2	Use of appropriate criteria with relevant use of context to come to a justified stand.	2-3
1	Unjustified stand with limited/no reference to context.	1

Markers' comments

While most are able to explain relevant measures that the UK government can adopt, there is generally rehearsed answers which do not have much reference to the context given. Many answers focused on the use of depreciation and provided correct explanation of its mechanism but there was little consideration to its appropriateness in this case. Similarly, the use of supply-side measures tend to be explained in general terms rather than targeted specifically at boosting exports in this case. As such, the limitations of the measures were also generic in nature in most cases. Evaluative comments were also lacking in many of the responses.

[Total: 30]

IJC Preliminary Examination
Paper 1 Question 2 Suggested Answer:

- (a) (i) Using Figure 1, account for the difference in Japan's real and nominal wage from 2016 to 2017. [2]

- [1m] Describing the difference
[1m] Explain the reason

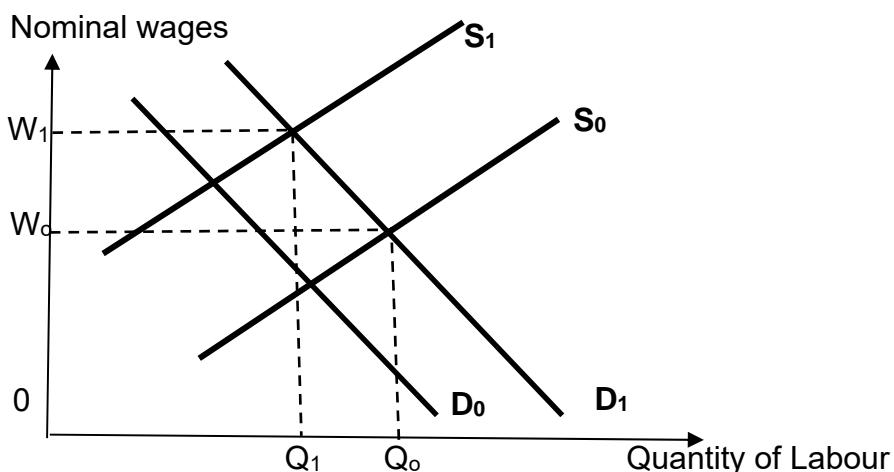
The gap between Japan's real and nominal wage from 2016 to 2017, is widening. [1m] The widening gap between real and nominal wage is due to the rise of inflation rate. Real wage is where the effect of inflation (sustained and inordinate increase in goods and services) has been eliminated in relation to prices in a selected base year (year 2014). [1m]

- (ii) Explain **one** demand and **one** supply factor to Japan's nominal wage trend [4]

PRELIMINARY EXAMINATION SUGGESTED ANSWERS

from 2014 to 2017.

Possible Demand Factor [2m]	Possible Supply Factor [2m]
<ul style="list-style-type: none"> Positive economic growth <ul style="list-style-type: none"> Rise in purchasing power Firms increase output Labour is a derived demand DD for labour 	<ul style="list-style-type: none"> Ageing population or Shrinking population <ul style="list-style-type: none"> SS of labour



Conclude that SS of labour > DD for labour
 ⑨ Rising nominal wages

PRELIMINARY EXAMINATION SUGGESTED ANSWERS

- (b) China's policymakers' has attempted 'to wean its dependence on credit-fueled investment and government spending and move instead to a consumer-driven growth model'. [6]

Discuss the possible short-term and long-term consequences of the above attempt on China's living standards.

Introduction

Standard of living refers to the level of economic and social well-being of a population. As stated in the preamble, China's policymakers has attempted to reduce dependence on credit-fueled investment and government spending and move instead to a consumer-driven growth model.

Point 1: Possible short-term consequences on material SOL

- China economy is now the second largest in the world + China has a large domestic market, well-endowed with resources
 - ⑧ China is able to increase reliance on domestic consumption
 - Rise in consumption expenditure (as seen from Table 2)
 - ⑨ Improve material SOL
- Define material SOL: Material well-being is indicated by amount of goods and services an average person can have access to and this is commonly measured by GDP per capita.
- ⑨ Consumers are now able to consume a wider variety of goods and services
 - ⑨ Rise in AD ⑨ Rise in real GDP ⑨ Rise in short-term material SOL

Point 2: Possible long-term consequences on material SOL

- China's policy makers reducing dependence on credit-fueled investment
- ⑨ Reducing China's exposure to external volatility eg Eurozone debt crisis, World Financial Crisis
- ⑨ Domestic firms now can earn more stable revenue & profits due to the increase leverages on domestic C + Firms (Domestic & foreign) will increase investment for production of goods to be sold to the large domestic market
- ⑨ Sustained economic growth
- ⑨ Rise in long-term material SOL

Point 3: Possible short-term & long-term consequences on non-material SOL

However, economic growth does not necessarily leads to higher living standards. Living standards also comprise of qualitative aspects of life such as access to quality healthcare and education, living and working conditions, the number of hours worked as well as the access to a clean public spaces, that is, free from air, noise, and traffic pollution.

PRELIMINARY EXAMINATION SUGGESTED ANSWERS

China's current pollution levels adversely impacts its non-material living standards. From Extract 7, it is noted that China has declared a war against pollution in 2014. Since then, China has achieved some success in reducing pollution levels, though the current air pollution levels still exceed China's own standards.

+

Sustained rise in GDP per capita

⑨ Increase in tax revenue (income tax, corporate tax & sales tax) collected

⑩ Government can allocate more resources to reduce pollution levels

⑪ Larger rise in long-term non-material SOL as compared to short-term non-material SOL

Level	Description	Marks
Level 2	Well-developed explanation on the possible short-term and long-term consequences of the move towards consumption-driven growth model, on China's living standards.	3-6
Level 1	Description of material and non-material living standards, without addressing to question requirements.	1-2

- (c) In the light of the fiscal consequences of the shrinking population, assess the [8]) options in which Japan could reduce its government debt.

Question Analysis:

Command Word	Concept/Content Word	Context
'Assess'	'Options'	'Japan'

Consider at least 3 options and weigh them so as to come to a conclusion about their effectiveness or appropriateness.

Demonstrate thorough understanding of policies to reduce government debt

Consider the fiscal consequences of shrinking population in Japan

Introduction

Shrinking population

⑨ declining fertility and increasing longevity

Explain the fiscal consequences of the shrinking population

- Rise in G : in spending on age-related programmes (health and pensions)
- in Tax Revenue collected (due to lower income tax revenue & sales revenue)

PRELIMINARY EXAMINATION SUGGESTED ANSWERS

- ⇒ Ballooning and unsustainable public debt
- ⇒ Opportunity costs such as sharp cuts in other spending or necessitate large tax increases that could hinder economic growth.

Given the above dire fiscal consequences, a multi-pronged policy approach is required.

Main Body: Option 1a: G - Gradual reduction in age-related programmes

Address the growth of age-related government expenditure

- Reform public healthcare system to contain growth of public health spending
 - Policies can help to ensure that new technologies reduce, rather than raise, health care costs, without adversely affecting health outcomes. Eg: use of health information technology (for example, to collect, store, and share patient data) so as to reduce costs while protecting healthcare outcomes.
 - Government to provide greater support for primary and preventive care—which helps improve health and reduce the need for more costly treatments at a later stage—and improve provider payment systems to control costs.
 - Raise competition among insurers and service providers

In summary, containing the growing costs of health care would help reduce long-term fiscal risks of unsustainable public. On average, health care costs are projected to increase faster than economic growth. This is due not only to population aging but to technological improvements in health care that result in better but more costly services. Assuming that above policies are able to keep the growth of health care costs per capita in line with GDP per capita, health care spending will increase at a slower rate, reflecting only demographics.

- Reform public pension system to help offset the effects of aging. Eg: raise the retirement age to complement efforts to boost the labor force participation of older workers. It would also help to better align retirement ages to longevity gains amongst many Japanese elderly.

Limiting factors

A gradual pace of reform to pension and health systems would help to spread the burden across generations. There is greater urgency to move on healthcare reforms as Japan population is shrinking fast coupled with rising government debt.

Main Body: Option 1b: T – Strengthen tax systems

It maybe impossible to fully offset the impact of demographics on age-related spending, thus necessitating broader public sector reforms to improve the public finances. Japan will need to strengthen its tax systems and improve the efficiency of public spending programs outside of pensions and health:

- Broader tax base – increase sales tax rate or goods and services tax

PRELIMINARY EXAMINATION SUGGESTED ANSWERS

- ⑨ Reduce government debt

Main Body: Option 2: Improve firms' international competitiveness

As observed in Table 2, Japan's export revenue only constituted 16% of GDP in 2017.

Supply-side market-oriented policies, which involve measures to free up the markets or improve market incentives, can be used to improve firms' export competitiveness.

For instance, the Japanese government can help small and medium-sized enterprises (SMEs) to grow and establish themselves via a **partial tax exemption scheme** which lowers the taxable profits of these companies.

→ These tax rebates reduce firms' unit COP and restore export-price competitiveness.

As demand for exports is price elastic ⑦ ↓ Exports price ⑦ ↑ Export Revenue ⑦ ↑ net exports and improve trade balance

→ Moreover, with the increase in profitability of investment, this allows Japan to attract FDIs ⑦ Both AD and AS increase ⑦ sustainable EG

Also, **long run supply-side interventionist policies**, which concerns direct government intervention through financial support can be used to enhance Japan's international competitiveness.

Pro-growth policies or pro-business policies that involves ↑ G on building up world class infrastructure enhancing capabilities. This spending on infrastructure can be deliberately targeted industries such as biomedical, clean technology and robotics
⑨ This will lead greater inflow of investments due to firms' increased expected rate of return

- ⑨ Rise in corporate tax revenue collected in the long run

- ⑨ Reduce government debt

Main Body: Option 3: Raising labour productivity & labour force participation rate

Long run supply-side interventionist policies, such as subsidies for retraining can help to counter shrinking population

The government can introduce new initiatives to support life-long learning and deepening of skills. The SkillsFuture Credit can be made available for all Japanese above 25 to enhance their skills in work related areas. The use of subsidies for education and retraining enables workers to gain skills relevant in the economy.

→ Increase in skills level + labour productivity especially for low/mid-skilled workers

PRELIMINARY EXAMINATION SUGGESTED ANSWERS

⑨ increases in employability & increase labour force participation rate, especially for women and older workers, could help mitigate the impact of aging.

Limiting factors

Assuming constant productivity per worker, increasing labour force participation rates can increase GDP by increasing the number of workers, which would offset or delay some of the projected impact from aging.

Other option

Measures typically aim to offset the direct costs (through baby bonuses, family allowances, tax incentives) and opportunity costs (through parental leave, subsidized child care, flexible work schedules) of childbearing.

However, a “birth rate” solution to ageing is unlikely to work for most developed economies, including Japan. The pronatalist policies seem to have only modest effects on the number of births, although they might affect the timing of births, and to have a positive impact on the labour supply decisions of mothers.

Evaluation

Weigh at least 2 policy options and comment that Japan's government debt is likely to grow given its rapidly shrinking population and Japanese reluctance to welcome large inflows of foreign investment and talents. A multiple-prong approach should be taken to contain the rise in government expenditure as well as to sustained raise in labour productivity in the long run.

Level of Response Marking Scheme (LORMS)

Knowledge, Understanding, Analysis		
L2	For a balanced and well-developed analysis of appropriate policy options that Japan government can employ to reduce its government debt. Answer is well-supported with evidence from the case material.	4-6
L1	For an inadequately developed answer which attempts to explain how policy options can reduce Japan's government debt. Answer is supported with some evidence from the case material.	1-3
3m for Evaluation		
E2	Valued-judgement on whether relative effectiveness of policy options Japan government should employ, to reduce its government debt.	2
E1	Incidental evaluative comments.	1

PRELIMINARY EXAMINATION SUGGESTED ANSWERS

- (d) Discuss the view that China will eventually achieve sustainable economic growth just because it has become 'a major hub of innovative products and services'. [10]

Command Word	Concept/Content Word	Context
'Discuss'	'Sustainable Economic Growth'	'China'

Set out both sides of an argument (for and against), and come to a conclusion related to the content and emphasis of the discussion. There should be some evidence of balance, though not necessarily of equal weighting.

Demonstrate thorough understanding of factors to achieve sustainable economic growth

Consider the context of China economy

Introduction

Sustainable growth refers to growth that can be maintained without creating other significant economic problems such as resource depletion and environmental degradation, particularly for future generations. It implies a positive and stable growth rates over an extended period of time.

Thesis: Yes, China will eventually achieve sustainable economic growth just because it has become 'a major hub of innovative products and services'

China has become a major hub of innovative products and services

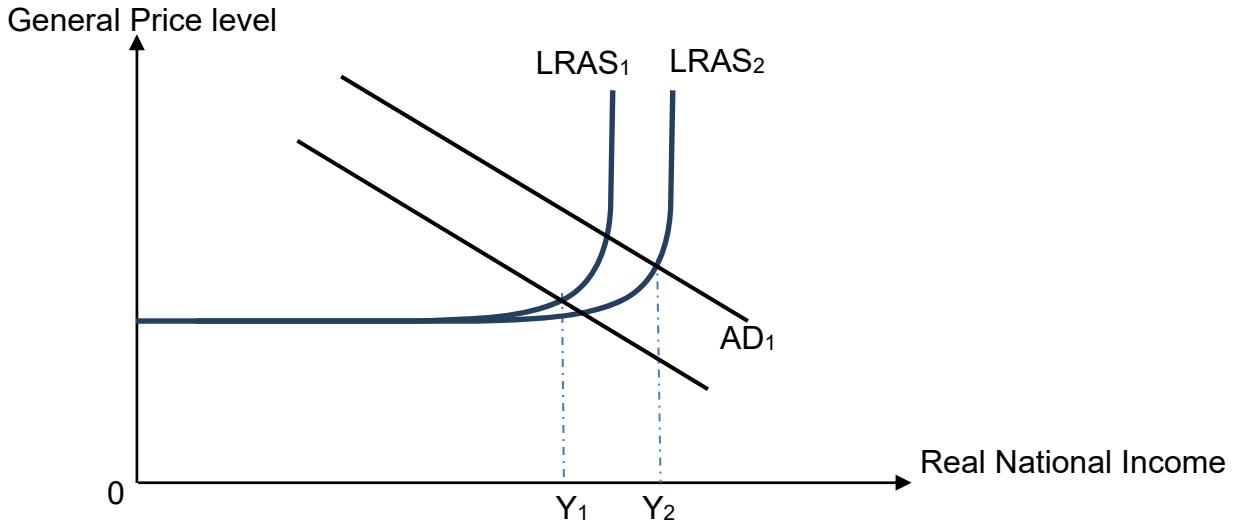
1. Innovations in manufacturing eg R&D by Huawei Technologies
2. Innovations in digital economy eg Taobao digital pay app, Alipay

1. Innovations in manufacturing	
Process manufacturing innovations ⑨ more cost-efficient methods of production ⑨ lower unit COP ⑨ increase SRAS ⑨ reduce GPL ⑨ in price of domestic goods ⑨ in price competitiveness of exports ⑨ As DD for China's manufacturing exports is price elastic ⑨ X revenue	Product manufacturing innovations ⑨ improvement in product quality ⑨ Rise in non-price competitiveness of X ⑨ Further DD for X of China ⑨ X rev will expand further ⑨ Entice greater inflow of FDIs
The above increases in X and I ⑨ in AD, demand-deficient unemployment rate ⑦ increase in real national income from Y_1 to Y_2	

PRELIMINARY EXAMINATION SUGGESTED ANSWERS

At the same time, accumulation of new capital ⑨ increases in productive capacity ⑨ increases in LRAS from $LRAS_1$ to $LRAS_2$

⑩ Non-inflationary sustained economic growth (AD + LRAS)



Process manufacturing innovations include manufacturing firms seeking less polluting methods of production (Extract 7: China had prohibited new coal-fired power plants in the country's most polluted regions)

⑨ China will eventually achieve sustainable economic growth

Anti-Thesis: No, other factors are also critical in determining whether China will eventually achieve sustainable economic growth

Factor 2: Ability of workers to reskill and upskill

The shift towards consumption-driven growth model

- Shifting trade flows (China moving to own sources of FOPs) & increase R&D capabilities
- Upgrading of industrial structure ⑨ Loss of CA in re-export industries
- Rise in structural unemployment since some jobs become redundant and the retrenched workers are unable to move into the new industries with the mismatch of skills

⑨ Slower economic growth

On the other hand, workers who are able to work with the new technology will be able to earn higher income levels ⑦ widen income gap between these two groups of workers ⑦ creating more inequity in the country as the rich can consume more while the poor will consume less with lesser dollar votes

PRELIMINARY EXAMINATION SUGGESTED ANSWERS

Factor 3: Ability of government to reduce pollution levels to World Health Organisation recommendations

The Chinese government ability to enable greater use of renewable energy such as solar, wind, nuclear and other greener energy sources

Possible policy options:

- Imposition of carbon tax on polluting manufacturers based on CBA, where tax=MEC at output (MSB=MSC)
- Imposing regulatory standards
- Investment in greener technology eg increase govt spending to boost R&D efforts in green technology

- ⑨ Reduce CO₂ emissions & able China to meet WHO air pollution standards
- ⑨ Reduce environmental degradation & improve non-material welfare of workers as they now enjoy better air quality and are less likely to suffer respiratory illness in future
- ⑨ Achieve sustainable growth

Evaluation

Higher government expenditure in greener technology may lead to reallocation of resources from other sectors in need.

Optional factor: Ability of China to continue reaping the benefits of globalisation

Currently, US President Donald Trump has shaken the foundations of global trade, slapping steep tariffs on billions of dollars' worth of goods from the EU, Canada, Mexico and China. Thus, whether China can continue to achieve sustainable economic growth depends on China's ability to harness the gains of globalization.

Eg: The Chinese government is actively and directly intervening to develop China's infrastructure with other nations. China's vision for Eurasia is its "one belt one road" strategy, a plan to wrap its own infrastructure and influence westward by land and by sea. The land route is the most ambitious project to integrate continental Asia and Europe. The sea route allows for Chinese ports and bases to facilitate trade through the Indian Ocean to the Horn of Africa and the Mediterranean.

- This will allow for greater flow of trade, increasing China's export revenue and actual economic growth.
- The cost of obtaining raw materials may also be lowered due to cheaper imports coming into China, hence reducing imported inflation and cost push inflation, leading to increase of SRAS and hence NY increases (actual economic growth) and general price level falls (Diagram to show SRAS increasing right).
- In addition, better infrastructure allows for productive capacity to increase for China as it attracts more investments in the long term. This increases the LRAS, hence allowing for potential economic growth (Diagram to show LRAS increasing right).

Evaluation

PRELIMINARY EXAMINATION SUGGESTED ANSWERS

Building of such massive infrastructure such as roads and sea ports will require huge government spending from the Chinese government. If the government is not prudent with its spending, it could potentially lead to high government debt. Furthermore, these infrastructures require long term maintenance from the Chinese government which requires more fiscal spending from them in the long run.

Overall Evaluation

Weigh the factors and comment on the relative importance of the factors.

Level of Response Marking Scheme (LORMS)

Knowledge, Understanding, Analysis		
L2	For a balanced and well-developed discussion on the factors to achieve sustainable economic growth. Answer is well-supported with evidence from the case material.	5-7
L1	For an inadequately developed answer which attempts to explain the factors to achieve sustainable economic growth. Answer is supported with some evidence from the case material.	1-4
3m for Evaluation		
E2	Valued-judgement on the significance of the factors to achieve sustainable economic growth.	2-3
E1	Incidental evaluative comments.	1

PRELIM SUGGESTED ANSWERS

2018 H2 Prelim Essay Q1

Question: Discuss the likely combined effects of economic growth and a rise in Goods and Services Tax (GST) on consumers and producers in different product markets in Singapore. [25]

Suggested Answer

Explain effects of economic growth on consumers and producers in different product markets

- Economic growth – rise in real national income and hence rise in household incomes
- Impact on product markets depends on the income elasticity of demand of products:
 - For normal goods with positive YED, demand would increase. Necessities such as rice ($0 < \text{YED} < 1$), demand would increase less than proportionate to the increase in income whereas for luxury goods such as cars ($\text{YED} > 1$), the demand would increase more than proportionate to the increase in income.
 - For normal goods, consumers' expenditure and hence producers' revenue would increase as both price and quantity increases, ceteris paribus.
 - For inferior goods with negative YED such as instant cup noodles, demand would decrease.
 - Consumers' expenditure and hence producers' revenue would decrease as both price and quantity decreases, ceteris paribus.

Explain effects of a rise in GST on consumers and producers in different product markets

- GST is an indirect tax on producer which raise unit COP (since GST is imposed on intermediate goods and raw materials) and thus decrease SS since producers will reduce production at any given price. The supply curve will shift upwards in a pivotal manner since it is an ad valorem tax (% tax). This means that the higher the initial market price, the larger will be the tax amount and hence both original and new supply curves diverge.
- The market price rises and market quantity falls. Impact on consumers' expenditure and producers' revenue depends on price elasticity of demand for products.
 - Assuming ceteris paribus and similar initial market prices of the goods in the 2 markets, when SS falls due to GST, the good with price inelastic demand will result in a more than proportionate increase in price and less than proportionate fall in Qdd.

PRELIM SUGGESTED ANSWERS

- Consumers' expenditure increases (hurt consumers as they pay higher price and enjoy lesser units of good)
 - Rise in GST would result in less revenue earned by the producers since they need to pay the government the GST from whatever they received from the consumers. Some firms in the market may end up with subnormal profit which may cause them to shut down.
 - There is a greater negative impact on consumers as compared to producers, if demand is more price inelastic than supply.
- On the other hand, if the demand of good is price elastic, then there will be a less than proportionate rise in price and more than proportionate fall in quantity. ⑨ Consumers' expenditure falls.
- Hence in this case, the adverse impact on producers will be greater since spending by consumers fall and yet producers have to pay the GST when supply is more price inelastic than demand.

Explain combined effects of economic growth and a rise in GST on consumers and producers in different product markets

- Market for necessities e.g. Rice (normal good with price inelastic demand) ⑦ expenditure/ revenue rise
 - Given that $0 < YED < 1$, the rise in income leads to a less than proportionate increase in demand for rice ⑦ increase in consumer expenditure, ceteris paribus
 - As rice has a high degree of necessity as a staple food, its demand is price inelastic ⑦ the rise in price (due to rise in GST) will lead to a less than proportionate fall in Qdd ⑦ consumer expenditure increases, ceteris paribus
 - ⑨ Combined reinforcing effect: Rise in consumer expenditure/ producer's revenue in the market for rice
- Market for luxury goods e.g. Cars (normal good with price elastic demand) ⑦ impact on expenditure/ revenue is uncertain
 - Given positive $YED > 1$ as car is a luxury good, the demand for cars will increase more than proportionate to an increase in income ⑦ large increase in consumer expenditure, ceteris paribus
 - As expenditure on cars generally take up a large proportion of an average household income, its demand is likely to be price elastic ⑦ the rise in price of cars (due to rise in GST) will lead to a more than proportionate fall in Qdd ⑦ consumer expenditure falls, ceteris paribus
 - ⑨ Combined effect on consumer expenditure is uncertain – depends on the relative shift of demand and supply. The large increase in demand for cars (due to $YED > 1$) is likely to outweigh the fall in supply of cars, resulting in a rise in consumer expenditure/ producer's revenue.

PRELIM SUGGESTED ANSWERS

EV: However, for such luxury goods, the initial prices are high and so the amount of GST to be paid is likely to be high \Rightarrow large rise in COP and hence large fall in SS which may be greater than the rise in demand \Rightarrow so, overall consumer expenditure/ producer's revenue may fall instead.

- Market for inferior goods e.g. instant cup noodles (with price elastic demand)
 \Rightarrow expenditure/ revenue fall
 - Given negative YED as instant cup noodles are deemed as inferior good, the demand will fall when income increases as people would prefer to consume better quality food in restaurants \Rightarrow fall in consumer expenditure, ceteris paribus
 - As there's availability of many other food substitutes, the demand for instant cup noodles is price elastic \Rightarrow rise in price (due to rise in GST) will lead to a more than proportionate fall in Qdd \Rightarrow consumer expenditure falls, ceteris paribus
 - ⑨ Combined reinforcing effect: Fall in consumer expenditure/ producer's revenue in the market for instant cup noodles

Conclusion

As analysed above, the combined effect of economic growth and rise in GST on markets of normal goods with price inelastic demand is an unambiguous rise in consumer expenditure while markets of inferior goods with price elastic demand would see an unambiguous fall in consumer expenditure.

EV: Outcome is uncertain for other combinations (e.g. inferior good with price inelastic demand; normal good with price elastic demand) \Rightarrow depends on the relative magnitude of change in demand and supply

EV: All the above analysis assumes ceteris paribus condition holds – not valid in the real world as there are many other factors which may also affect demand and supply of products. For e.g. if population size in SG increases, overall demand for all types of goods may rise, increasing consumers' expenditure and producers' revenue in different product markets.

EV: GST is a regressive tax \Rightarrow greater burden on lower-income groups who pay a larger proportion of their income as taxes. Assuming same rise in income for all consumer groups, the lower-income consumers will be more negatively affected by the rise in GST especially on normal goods (necessities) with more price inelastic demand than supply

PRELIM SUGGESTED ANSWERS

Suggested Mark Scheme

Knowledge, Application/Understanding and Analysis		
L3	<p>For an answer that uses appropriate demand, supply and elasticity concepts as analysis to explain the combined impact of economic growth and rise in GST on consumers and producers in different product markets. Good use of diagrams to provide an analytic explanation.</p>	15-20
L2	<p>For an answer that uses demand and supply framework with limited analysis to explain the combined impact of economic growth and rise in GST on consumers and producers in different product markets. Diagrams are not used effectively as analytical tool.</p> <p>Max 12 if answer only analyze combined impact on 1 product market. Max 9 if answer only analyze impact of economic growth or rise in GST.</p>	9-14
L1	<p>For an answer that shows some knowledge of economic growth and GST with little/ no economic analysis. For an answer that consists of huge conceptual errors.</p>	1-8

Evaluation		
E3	<p>For an answer that uses analysis to support an evaluative conclusion on the combined impact of economic growth and rise in GST on consumers and producers in different product markets in Singapore.</p>	4-5
E2	For answer that make some attempt at evaluation.	2-3
E1	For an answer that give unsupported evaluative statement	1

PRELIM SUGGESTED ANSWERS

Another firm, Tada has entered Singapore's ride-hailing industry, joining a slew of others which made similar moves following Uber's exit. These firms are going up against the incumbent Grab and the market is set to get even more crowded with Indonesian ride-hailing giant Go-Jek's impending entry.

Explain the strategies a firm can adopt to compete in the ride-hailing industry. [10]

Approach

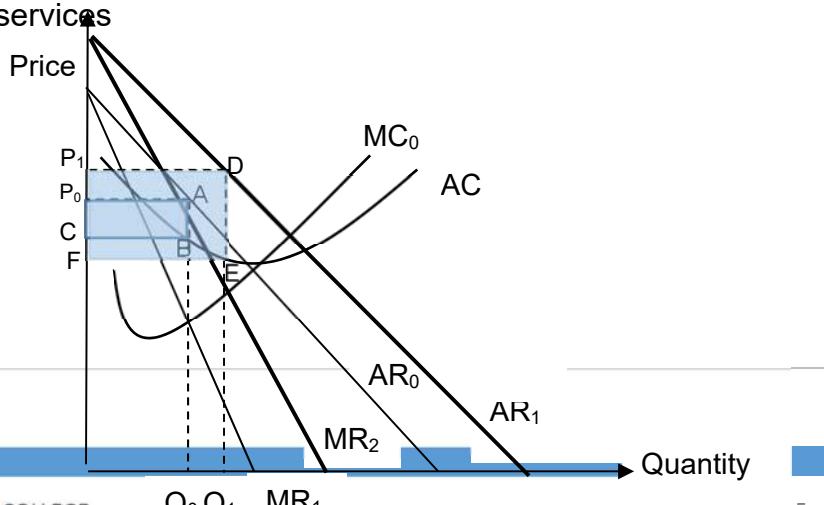
Students should recognize that the question is on the conduct of firms. Specifically strategies to compete can include both price and non-price competition strategies. The question is also open to the type/nature of firm in the ride-hailing industry. i.e Students may explain strategies of existing or incoming firms. Size of firms may vary too.

1) Price strategy (Increase revenue)

- Incumbent firm may adopt predatory pricing of which the service is set at a very low **price** with the intention to drive competitors out of the market or to create barriers to entry for potential new competitors.
- When price falls, given that demand for the services are price elastic given the number of substitutes platform, there will be a more than proportionate increase in Q_d of the firm's service and TR increases. Hence, profits increases *ceteris paribus*

2) Non-Price strategy (increase revenue or lower cost)

- Expand services provided to open new markets and expand revenue sources. Eg Grab Shuttle Plus or Grab's food delivery service or Ryde's on-demand courier services



PRELIM SUGGESTED ANSWERS

Figure 1

- These services increase market demand for the company's services \rightarrow increasing AR \rightarrow AR shifts right from AR₀ to AR₁ \rightarrow Increase in TR and hence profits (CP₀AB to FP₁DE)
- Mergers and Acquisitions
 - Existing firms can merge or acquire other firms Eg Grab acquired Uber's Southeast Asia's Operations to achieve a combined business as the leader in platform and cost efficiency in the region.
 - Grab can then integrate Uber's ridesharing and food delivery business in the region into Grab's existing multi-modal transportation and fintech platform. Expansion of output results in technical EOS \rightarrow cost savings \rightarrow profits increases when unit COP falls, ceteris paribus
 - Also, AR for Grab increases and become more price inelastic as competition reduces. TR revenue increases.
- Innovation in product and service
 - Grab develop GrabPay- Mobile Wallet Payment Solution and tie up with business to utilise this as a cashless payment solution beyond rides. Grab Rewards points earned can also be used to redeem deals, discounts etc
 - All these encourage the use Grab ride hailing services and transform consumers' habits in cashless payment \rightarrow more demand \rightarrow increase in AR \rightarrow increase in TR
- Improve branding and reputation
 - Tada competes by attracting safe and quality drivers so quality services can be provided. Company charges zero commission and offer reward incentive for safe driving. It also emphasizes careful review of drivers rewards riders for accurate feedback
 - With emphasis on safety, some consumers may demand for Tada's services instead increasing TR.

Level	Descriptor	Marks
I L3	Well-developed explanation of price and non-price strategies for firms to compete in ride-hailing industry. Strategies should	8 – 10

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	address increase in TR or lower TC for firms.	
L2	<p>Underdeveloped explanation of price and non-price strategies for firms to compete in ride-hailing industry.</p> <p>Max 5m: For explanation of strategies that address increase in TR or reduction of TC only. Strategies may not be applied to the ride-hailing industry.</p>	5 – 7
L1	Pure listing/description of strategies. Concept errors present.	1 – 4

Discuss whether the entry of new firms in various industries necessarily results in higher society's welfare.
[15]

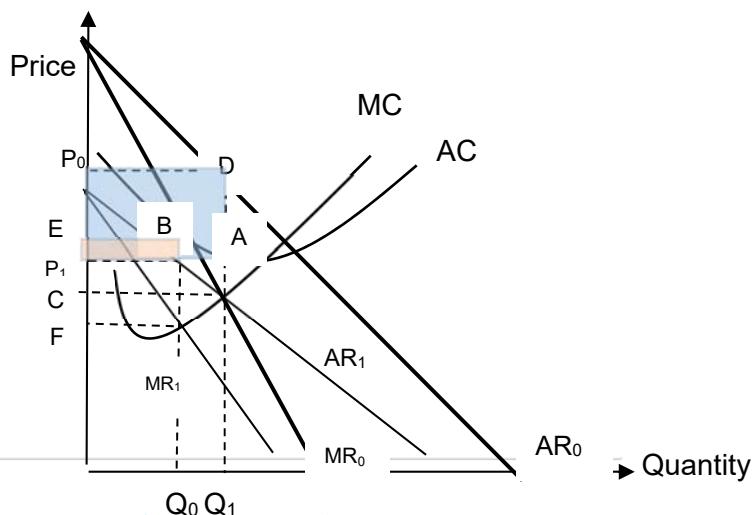
Approach

The question tests on performance of firms. Students should interpret society's welfare as impact on consumers, producers and government. Analysis should be anchored on efficiencies concepts, profits, price, quantity, choice etc. Answers should also present two-sided arguments and on the extent of impact.

Introduction

Entry of new firms affects market share and power of existing firms. This results in various impact on economic agents of the society. There are many factors affecting the impact. This depends on type of industries and goods as well as different governments.

Thesis: Entry of new firms in various industries results in higher society's welfare



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Figure 2

Entry of new firms \rightarrow increase competition in the industry \rightarrow existing firms faces a fall in AR and become more price elastic \rightarrow AR shifts left from AR₁ to AR₂ \rightarrow Price and Quantity of firm falls from P₀ to P₁ and Q₀ to Q₁ \rightarrow Firms are less allocative inefficient as mark-up between price and MC reduces (P₀C to P₁F). With fall in prices, consumers can enjoy cheaper goods and services of higher variety and quality. Consumer surplus increases.

- Eg: Renowned national carriers have been hammered by budget carriers such as AirAsia at the low end of the market, while Persian Gulf airlines like Emirates Airline and Qatar Airways have eaten into their business for premium long-haul flights \rightarrow This led to the airlines to engage in serious restructuring efforts, searching for new ways to make money and frantically cutting costs \rightarrow Examples include **investment in latest aircraft and technology and investment** in cabin crew to deliver high quality services (**higher dynamic efficiency** as incentive to innovate increases) \rightarrow consumers hence benefit more cheaper tickets and higher quality services.
- EV: *However firms may also lose the supernormal profits and hence its ability to innovate. In extreme cases, subnormal profits maybe earned (Fig 2) and firms may shut down. Inventive to compete must be balanced with ability to innovate for dynamic efficiency to be achieved. Innovation in the airline industry maybe restricted only to the bigger national carriers rather than the budget airlines which are making only low supernormal profits*
- EV: *In case of ride-hailing market in Singapore, Grab has obtained a high level of market share and loyalty among ride-hailing customers. It will be difficult for Tada, an incoming firm with little market presence to compete efficiently. Hence, Grab might not change its behaviour and no impact will effect.*

Firms may become **more productive efficient** as they are more concerned with being more cost efficient when more firms enter the market. When firms review the optimal combination of labour and capital to produce the goods, cost can be reduced \rightarrow Productive efficiency improves and firms may still maintain their profits.

- EV: *For ride-hailing industry, threat of competition is high (high contestability) and current level of competition is high as start-up cost is relatively low, with dependence on contract labour with no inherent loyalty or specialized skills, and have free apps that can be downloaded in seconds. Firms are more likely to be productive efficient so as to maximise profits and ensure survival. On the other hand, industries of high levels of barriers to entry may not see the same result.*

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Overall, with reduced market dominance, market efficiencies can be achieved while efficient market conduct can be maintained. Overall productivity, innovation, and competitiveness of markets of the country can be promoted. This may also promote export competitiveness of goods and services and improve AD and BOP of the country, achieving better macroeconomic performance of the country.

Anti-thesis: Entry of new firms in various industries may not result in higher society's welfare

- With rising competition, existing firms may lack the scale to reap sufficient IEOS especially in country of small market size like Singapore. Costs of firms increases, unable to remain profitable, firms close down and retrenchment occurs. When market consolidates, industry may still be dominated by a few large firms.
- Eg: In case of **natural monopoly**, which is a type of monopoly that exists due to high fixed or start-up costs such as Public Rail Transport and Energy Providers. With natural monopolies, economies of scale are very significant so that minimum efficient scale is not reached until the firm has become very large in relation to the total size of the market
- *Minimum efficient scale (MES)* can only be achieved when one firm has exploited the majority of economies of scale available and is the lowest level of output at which all scale economies are exploited.
- With entry of new firms and rising competition, natural monopoly cannot remain profitable, shut down and goods cannot be supplied.

EV: However, without regulation, natural monopoly will produce at $MC=MR$ and charge at P_e while producing at Q_e , earning high level of profits. Protecting them against competition could worsen such behaviour. Regulation on pricing and output must be in place i.e AC/ MC pricing so as to ensure the benefits of protecting the natural monopoly outweighs the costs.

Other factors affecting extent of impact on society's welfare

- Impact more significant on markets dominated by one or few firms. For MC industry such as online blogshops, the impact on change in firms's behaviour could be less significant as the market was highly competitive to begin with.
- Similarly, if market has been highly contestable, firms; behaviour are already in check- productive and dynamic efficient. Entrance of more firms could erode profits and reduce existing firm's ability to innovate, less dynamic efficient and worsening society's welfare

Conclusion

Adequate competition results in better market efficiencies and outcome, benefitting consumers and governments. Producers, however, are more likely to suffer from loss of

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profits when their demand is competed away. However, this depends on the strategies the firm undertake and the type of industries and countries the firms exist in. Some industries such as natural monopoly ones would require domination of one firm in the market. In small economies such as Singapore, too many firms in the market may result in loss of IEOS on existing firms when small size of market cannot sufficiently provide a large enough output for firms. In such cases, a good balance must be struck between competition and protection of these firms to allow them to be profitable.

Level	Descriptor	Marks
L3	A <u>balanced and well-developed answer</u> on the impact of entry of new firms on society's welfare. Answer should address various aspects of welfare and different agents and various industries.	8 – 10
L2	An <u>under-developed answer</u> on the impact of entry of new firms on society's welfare. Max 5: one-sided answer addressing only the thesis or anti-thesis.	5 – 7
L1	A one-sided answer which merely <u>lists and describes</u> the impact of entry of new firms on society's welfare. Many/Serious conceptual errors; mainly irrelevant points that does not address the question requirements.	1 – 4
Evaluation		
E3	For an answer that arrives at an analytically well-reasoned judgement on the impact of entry of new firms on society's welfare in various industries. Might also question any unstated assumptions to arrive at this well-reasoned judgement.	4 – 5
E2	For an answer that makes some attempt at evaluation, but does not explain adequately their judgement or base it in analysis, about their judgement on the impact of entry of new firms on society's welfare	2 – 3

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E1	For an answer that gives an <u>unexplained, unsupported</u> evaluative statement on the impact of entry of new firms on society's welfare	1
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3	Markets may not function well when market participants do not have complete and accurate information, or when one market participant has more information than another.	
(a)	Using examples, explain how information failure might cause markets to not function well.	[10]

Suggested Answer (a)

Introduction: Briefly interpret key terms

Information failure exists when some, or all of the market participants do not have perfect information/knowledge (often relating to costs and benefits) needed to make an informed decision (i.e. as highlighted in the preamble). As a result of information

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failure, decisions made by rational economic agents may lead to inefficient outcomes in markets causing markets to not function well (i.e. Market to fail).

Body 1: Using an example, explain how imperfect information leads to market failure.

Definition: When market participants do not have complete and accurate information (i.e. imperfect information), they lack the necessary information to make informed decisions, which lead to less than optimal allocation outcomes in the market.

In the market for cigarettes for example, consumers fail to recognise the full costs resulting from the consumption of cigarettes (i.e. Smoking). This could be healthcare cost stemming from long term health problems and loss of income.

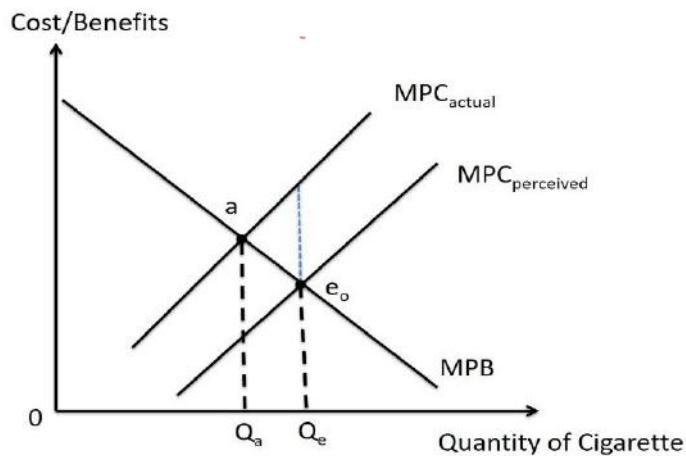


Figure 1: Imperfect Info - Cigarette

- With reference to figure 1, the marginal private benefit (MPB) of smoking is the pleasure experienced by smokers for fulfilling their nicotine addiction, while the marginal private cost (MPC) could be the cost of the cigarettes and other associated cost of purchasing cigarettes.
- Consumers maximise their satisfaction by consuming until Q_e where their $MPB = MPC$. However, due to imperfect information, the perceived MPC of smoking a cigarette is lower than the actual MPC of doing so.
- Under perfection information condition, the optimal equilibrium quantity is at Q_a where the actual MPC curve intersects with the MPB curve as shown in figure 1. Hence, imperfection information leads to the overconsumption of cigarettes.

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There is welfare loss incurred as actual MPC > MPB at Q_e . Consumers will be better off consuming less units of cigarettes until Q_a .

- As a result, market is inefficient as too much resources is diverted to the market for cigarettes and hence, the market is said to be not functioning well.

Body 2: Using a different example, explain how asymmetric information leads to market failure.

Definition: In the situation where economic agents involved in economic transactions do not have the same amount of knowledge (i.e. asymmetric information), information gaps between economic agents can result in distortion of incentives and markets to not function well (inefficient)

Adverse Selection

- Consider the case of buying health insurance where **buyers have more information about their general health than the insurance company can hope to know**, even if it insists on medical examinations.
- To purchase health insurance at a cheaper premium, all buyers would claim to be in good health. The insurance company of course, cannot tell which buyer is in good health, which buyer is in bad health. **As a result, the market premium depends on the average health condition of all buyers.**
- However, if health insurance policy premium is set at the same amount for all market participants, then the insurance policy at the prevailing market price is a better deal for those who are unhealthy than for those who are healthy.
- (Healthy people are less likely to claim on the insurance and hence should pay a corresponding lower premium, while the unhealthy people are more likely to make claims and should pay a corresponding higher premium. Hence, at the single market price, some unhealthy people will find buying the insurance policy a better deal).
- Because unhealthy people are more likely to want insurance, the proportion of unhealthy people in the pool of insured people increases.**
- This forces the price of insurance to rise, and more healthy people, aware of their low risks choose to not be insured.
- This further **increases the proportion of people in bad health among the insured**, which forces the price of insurance to go up more.
- This process continues until nearly all the people who want to buy insurance are unhealthy to a certain extent. **At that point, selling insurance becomes unprofitable so the insurance market collapses, resulting in what economists call a ‘missing market’.** Even though health insurance can

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generate much welfare for society, the absence of such a good means that total market failure has occurred and market did not function well.

- As a result, the market adversely selects only the people in bad health to take up insurance resulting in market failure.

Body 3: Using another example, explain another consequence of asymmetric information leading to market failure.

Another consequence of asymmetric information is moral hazard.

Definition: This occurs when a person does not bear the full costs of his actions because the cost is being borne by someone else. In this case, it is due to the fact that the buyer knows more about his intended actions than the seller. The buyer therefore has a tendency to engage in riskier behaviour which he otherwise would not have engaged in, thus resulting in an adverse outcome which is detrimental to society.

Moral Hazard

- In the healthcare market, if an individual is not insured, he is more likely to take care of his own health, through exercising, taking health supplements or going for regular health checks and hence reduce need to visit the hospital frequently.
- However, if the individual was to insure himself with health insurance at full value, he would be fully covered, and will not have to bear any additional cost in the event of hospitalisation.
- As a result, **the individual upon being insured, will have less incentive to take care of his health and may be prone to visiting the hospital over minor ailments.** They may even have an incentive to seek medical treatments more frequently and opt for more expensive and perhaps riskier services that they would otherwise not require.
- Such **change in behaviour** results in the **increase in consumption of healthcare services and hence overconsumption of healthcare services.** Market hence **over-allocates resources to the market for healthcare** and not function efficiently.
- (The payment from an insurance company lessens the burden on the individual in the case of an admission to the hospital but the additional health care spending generated by insurance represents a welfare loss to society.)

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Level of Response Marking Scheme (LORMS)

Level	Knowledge, Comprehension, Analysis and Application	Marks
L3	<p>For a well-developed answers that exhibit rigorous and clear explanation about how information failure can lead to markets to not function well.</p> <p>Answers are well-applied to a specific markets.</p>	8 – 10 (9)
L2	<p>For an undeveloped answers that have insufficient economic rigour in explaining how information failure leads to market to not function well.</p> <p><i>Max 5m - Theoretical explanation of information failure with minimal application to specific markets.</i></p>	5 – 7 (6)
L1	For a largely irrelevant answer which may contain conceptual errors.	1 – 4 (3)

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Part (b) focuses on measures that both government and relevant economic agents (e.g. Firms) can implement to tackle information failure and hence market failure. While there may be many measures to tackle market failure, students are reminded to apply appropriate measures more targeted to reducing information gap economic agents have, than other less relevant measures. As part of the question requirement, it is also important to consider different markets once again. Lastly, evaluative comments about the appropriateness of measures are needed to access the 5 evaluative marks set aside.

(b)	Discuss the appropriate measures to tackle information failure in the markets for different type of goods.	[15]
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Question Approach:

Suggested Answer (b)

Introduction:

As mentioned in (a), information failure can lead to market failure and measures relating to reducing information gaps are often implemented to tackle the problem of information failure.

Body 1: (For Imperfect Information)

Public Education and Campaign

To deal with imperfect information in the market, government often does public education especially in the form of campaigns. In the case of demerit good such as cigarette smoking, health programmes in schools and workplace and 'I Quit' smoking campaign by the Health Promotion Board (HPB) in Singapore aims raise awareness of the harmful effects of smoking.

- Allows consumers to gain more information about the associated costs and benefits of smoking. It also allow consumers to pickup more tips and strategies related to quitting smoking.
- **Consumers can get a better estimate of potential health risks and hence healthcare cost associated to consuming cigarettes.** As their perceived MPC moves closer to the actual MPC, this will lead them to reduce their consumption of cigarettes from Q_e to Q_a (ref fig. 1) **which leads to a more efficient outcome.**

Limitations: However, even with more information and knowledge of the associated cost, it is difficult to change behaviours such as habitual smoking, especially adult smoking. In addition, consumers may not act rationally even with greater awareness of the cost and benefits, especially in the case of teenage smoking (i.e. Teenagers are more likely to pick up the habit of smoking because of peer influence, *not that they are unaware of the harmful effects of smoking.*)

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EV: Hence, what is perhaps more appropriate is to **consider early intervention** such as the anti-tobacco education programme in mainstream schools to raise awareness of the harmful effects of smoking from young.

EV: More importantly, a **one-time off measure** (One-off, one message) **will not be as effective as a measures at multiple stages**. Early intervention not only prevents smoking initiation from young, it also adds additional touchpoints to encourage smokers to quit. Such an approach is hence more appropriate to deal with imperfect information related to smoking.

Next, to deal with asymmetric information, economic agents can consider different measures depending on the type of market and effects.

Body 2: (For asymmetric Information)

1. Screening (Adverse Selection)

In the case of adverse selection in the market for insurance in (a) for example, insurance providers expect all potential policy buyers to undergo medical assessment to ‘screen’ and differentiate the low risk from the high risk consumers. Otherwise, they also require potential buyers to declare their medical history before purchasing insurance. ‘Exclusions’ listed may lead to non-claims (i.e. claims cannot be made for illnesses resulting from past medical conditions); policy premiums may be adjusted to reflect risk level of potential policy buyers.

- This essentially implies that the insurance providers are able to gain more information about policy buyers and hence price policies according to their risk level. With a reduction in the information gap between buyers and sellers, the extent of information failure can be reduced hence producing a more efficient market outcome.

Limitations: However, one of the key issue with screening is while more information can be acquired, it will not eliminate the problem completely as the extent to which potential policy buyers will disclose information such as medical history varies, and they may still exploit the information gap. Hence, ‘screening’ is a necessary but insufficient measure.

2. Regulation and Legislation (‘Lemon’ Law) (Adverse Selection)

In the case of second-hand car market for example, adverse selection due to second-hand car sellers having more information than car buyers leads to lower prices and lower average quality of cars → eventually leading to a “missing market”.

- ‘Lemon’ laws are enacted to protect the interest of consumers. In Singapore for example, a consumer would be able to make a claim for a defective product (also known as ‘lemons’) within 6 months of purchase according to the Consumer Protection Act. It is compulsory for a seller of a defective product to repair,

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replace, refund or reduce the price of the defective product (subject to certain conditions).

- This effectively allows the **risks** of getting a poor quality good at a higher price to be transferred to or shared by the second-hand car seller for example. Second-hand car seller aware of the law has less tendency to withhold information from the buyer, hence reducing information gap.
- Should the seller refuse to make good on a defective product sold, consumers can bring the issue up with the Consumers Association of Singapore (CASE) to have them look into the matter on their behalf. CASE is a non-profit, non-governmental organisation dedicated to protecting the consumer interest.

Limitations: There are limitations to the "Lemon" Law however. It may be difficult determine the **source of the defect of the product**. For e.g, if the consumer had misused the item and caused the fault, he or she will not be able to make claims. But a consumer under the protection of 'lemon' law may argue otherwise. Also, while second-hand goods and vehicles are included, "satisfactory quality" as stipulated would take into account their age at the time of delivery and the price paid. This is however subjective. The "Lemon" Law also does not apply to services or consumer-to-consumer transactions.

EV: Perhaps what is more appropriate is to consider **changing the incentive of producers**. For example, the use of platforms where buyers can review about their experience with sellers and rate their product and service will reduce sellers' incentive to exploit consumers with their superior knowledge. Instead, they will have a tendency to ensure that the accurate information is conveyed to consumers so as to get a positive review from them. (Bad reviews may affect their future profits)

3. Direct provision of Compulsory all-inclusive Insurance Coverage (MediShield Life) (Adverse Selection)

- Another measure to tackle the problem of adverse selection where the healthy may choose not to get insured is a compulsory all-inclusive insurance coverage directly provided by the government. The Singapore government for example implemented MediShield Life where basic insurance is provided for all Singapore Citizens and Permanent Residents. Enrolment is compulsory and risk is pooled.
- This helps to **eliminate the problem of adverse selection. Lower-risk individuals are mandated to remain in the scheme and hence get coverage.**
- Such a measure corrects for the situation where there are non-participants in the market (where market adversely selects only the high risk individuals, and the low risk individual exits the market), which can prevent the situation of market collapsing (refer to (a)).

Limitations: However, to provide insurance for everyone at an affordable premium, government has to set aside huge amount of budget.

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- With rising healthcare needs, claims may exceed the premiums collected, and government may risk higher healthcare expenditure in the future which is not sustainable.
- In addition, Medishield life also covers people with medical history (claims can still be made on illness which exist prior to buying the insurance) which further increases the risk government has to bear.

Note: Medishield life is NOT FREE. Citizens still have to pay for the basic insurance.

EV: MediShield Life however incorporated features of maximum claim limit, deductible and co-payment to make it more appropriate. A maximum claim limit for example, prevents exploitation of the scheme through incurring exceptionally large medical bills. A deductible which is the amount an individual has to pay out-of-pocket before the insurance kicks in also help to reduce the extent of moral hazard for less costly small illness episodes. However, once the insured is aware that his or her medical bill has exceeded the stipulated deductible amount, it is totally ineffective in addressing the issue of moral hazard.

But while mechanisms of maximum claim limit, deductible and co-payment reduce the extent of moral hazard, it does not totally eliminate the issue.

4. Co-payments (For Moral Hazard)

- As mentioned briefly above, to tackle the problem of moral hazard, government uses the system of **co-payments**. Public hospitals in Singapore, which are government-owned, **subsidises a proportion of the patients' bills and require the patient to pay the remainder**, a system that is known as "co-payment".
- Individuals then have an incentive to make healthy lifestyle choices, despite the government's subsidy of healthcare costs.
- In the case of insurance markets involving moral hazard, the insured patient will be required to pay an excess before claiming the insurance pay-out so that individuals will still prefer to take care of his/her health to avoid hospitalisation and not seek more expensive and even riskier services that they would otherwise not need or be hospitalised unnecessarily.
- But the insurance will still offsets some of the medical bills. **The effect of co-payment is to increase the price of health care services from zero to some positive value so that quantity demanded of healthcare services is reduced.** This can make policy premiums more affordable.

Limitations: It can be difficult to determine the appropriate level of co-payment.

Healthcare costs in Singapore are high compared to neighbouring countries. As such, the market for healthcare in Singapore relies on both public and private insurance coverage to meet the high healthcare costs of individuals. If the co-payment amount is too high, it is possible that some low income individuals have difficulty paying the remainder of the hospital bills. If the co-payment is too low, the policy fails to solve the moral hazard problem.

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EV: Co-payment is an effective policy because it encourages consumers to be partly responsible for their own health, instead of relying on the state to provide healthcare treatment. However, it can lead to a less equitable outcome if lower income individuals cannot afford to pay the remainder of the medical fees leading to possible unintended consequence of lower-income individuals not partaking in the market (for insurance for example).

Conclusion:

The effects and the extent to which information failure occurs in different markets differ. In the real world, information is often imperfect. Hence, for policy measures to be appropriate, there is a need to better study the markets in detail. More importantly, consumers and producers need to make rational decisions based on the available information. But information comes at a cost traditionally. In fact, firms in the real world can profit from data-mining and selling information. Perhaps the more important issue is not about making information available, but how market participants make use of information.

Level of Response Marking Scheme (LORMS)

Level	Descriptor	Marks
L3	<p>For a well-developed and balanced answer that clearly explains appropriate measures to tackle information failure and their limitations.</p> <p>Answers are well-supported with appropriate examples in various goods/service markets.</p>	8 - 10
L2	<p>For an undeveloped answer which attempts to explain the appropriate measures to tackle information failure in various goods markets.</p> <p>Max 7m – For an answer that is one-sided</p> <p>Or</p> <p>Max 7m – For an answer which does not have a variety of appropriate examples to explain the measures.</p>	5 - 7
L1	<p>For an answer that is largely irrelevant or only contain superficial knowledge and understanding.</p> <p>Answer may have conceptual errors.</p>	1 - 4

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Evaluation		
E3	For valued-judgements made on the appropriateness of measures well-supported with economic reasonings.	4 - 5
E2	For judgement(s) on the appropriateness of the measures that is largely unsubstantiated or unsupported.	2 - 3
E1	For an incidental evaluative comment.	1

Question 4

- a) Explain the limitations of using Real GDP per capita to compare standard of living between countries [10]

Introduction:

Define Standard of living : the social and economic well-being of life. There are 2 aspects material and non-material SOL. The material aspect of SOL refers to the amount of quantity, variety and quality of goods and service that can be enjoyed while the non-material aspect of SOL refers to the intangible aspect of life such as the literacy rate/ education level, mortality rate, happiness level etc.

Define Real GDP per capita: refers to the value of final goods and services that an economy has produced within the geographical boundary in a given period of time, with inflation and population size taken into consideration.

Limitation 1: The accuracy of the Real GDP per capita data collected

- a) Hidden economy
 - The accuracy of the real GDP per capita collected may not be equally accurate for all countries and this can be affected by size of the hidden economy .
 - Hidden economy refers to economic activities that are not recorded but has economic values such as private tuition services or private home-based hair cutting service, mother cooking for the family or cleaning of the house or making a DIY cupboard from recycled materials.
 - Hence these activities are not recorded in the value of real GDP per capita **7** understating the value of Real GDP
 - For countries like Singapore where her Real GDP per capita is \$90531 and Qatar with \$124927 => Qatar will have a higher material SOL than Singapore as the people in Qatar has a higher income and can afford more good and services that gain more satisfaction. However, due to the overemphasis on academic success

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and small family size, Singapore has a larger hidden market such as private tuition and home-based childcare service by the neighbours or grandparents

b) Income Inequality

- The real GDP per capita may not accurately reflect the material SOL due to difference in level of income inequality of each country
- Income inequality is measured by Gini Coefficient, the value closer to 1 will imply high degree of income inequality while the value closer to 0 will imply a low degree of income inequality
- For a country that has high Real GDP per capita => an ave individual in the country has high level of income and is able to enjoy more and better quality goods and services => high level of material SOL. However, if the country also has high Gini Coefficient value => most of the income is generated in the country is distributed to only a small group of people in the country while the majority of the people in the country only received a small amount of the income that is generated in the country, hence the majority of people in the country is actually experience a low M. SOL. => the Real GDP per capita do not accurately reflect the M. SOL

Limitation 2: Non-material SOL is not taken into consideration

- The real GDP per capita reflect the non-material SOL
- When a country has high Real GDP per capita => the amount of goods/services produced by an ave individual is high => high production. With high production **⑦** high level of pollution **⑦** poor quality of air and possible increase in health problem **⑦** low non-material SOL.

Limitation 3: Difference in Cost of living is not taken into consideration

- Real GDP per capita do not into consideration the difference in cost of living between countries
- One slice of pizza may cost \$5 in Singapore but the same slice of pizza may cost 1 yuan in China, although the Real GDP per capita in SG is higher than China, but no. of goods/service a person can buy in Singapore might be lesser than one who is staying in China

Level	Knowledge, Comprehension, Analysis and Application	Marks
L3	For a well-developed answers that exhibit rigorous and clear explanation about at least 3 limitations on the use of Real GDP per capita in comparison of SOL between countries, with use good and appropriate use of examples to illustrate the limitations.	8 – 10 (9)

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	<i>Max 8m – if only 2 limitations</i>	
L2	<p>For an undeveloped answers that have insufficient economic rigour in explaining the limitations on the use of Real GDP per capita in comparison of SOL between countries, with use good and appropriate use of examples to illustrate the limitations, with little or no use of examples to illustrate the limitations</p> <p><i>Max 5m – 1 well – developed limitation with some use of example</i></p>	5 – 7 (6)
L1	For a largely irrelevant answer which may contain conceptual errors.	1 – 4 (3)

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- b) Discuss whether a depreciation in exchange rate of a country will improve the standard of living of her population. [15]

Intro:

Depreciation of exchange rate refers to the lowering of the external value of a country's currency and this will affect the export revenue and import expenditure of the country. In turn, the change in the level of export revenue and import expenditure will affect the standard of living. The standard of living of a population refers to the quality of life, which can be measured by the change in both the material and non-material aspect of life.

Thesis 1: Depreciation of exchange rate will improve Material SOL

Depreciation of exchange rate for a country like Singapore ⑦ price of SG export to be cheaper in foreign currency ⑦ increase demand for SG export by foreigners ⑦ increase in the AD of SG ⑦ multiplied increase in RNY. In addition, the increase in SG export demand ⑦ higher production level in the industries of the export sector such as tourism, medical equipment etc ⑦ increase more need for factor of production like labour ⑦ increase employment. With higher employment level and an increase in RNY ⑦ actual E.G, SG households will have higher income ⑦ higher purchasing power ⑦ afford to enjoy more and better quality goods like luxury bags or restaurant meals etc ⑦ improve in material SOL.

EV: The extent of increase in export demand depends on

- a) Non-price competitiveness of the export
- b) PED of export

Anti-thesis 1: Depreciation of exchange rate will worsen the material

Depreciation of exchange rate ⑦ higher price of import in domestic currency ⑦ lower ability for Singaporeans to afford imported goods and service ⑦ enjoy less quantity of M ⑦ fall in material SOL

In addition, the price of imported FOP will also increase ⑦ increase in COP for domestic producers ⑦ SRAS falling ⑦ higher cost-push inflation ⑦ domestic goods are more expensive than before ⑦ fall in affordability ⑦ less domestic goods and service can be enjoyed ⑦ fall in non-material SOL.

Ev: The extent of M dependency of a country

For country like SG, material SOL might fall because SG lacks domestic final essential goods and services, eg food items and clothes etc ⑦ $PED_m < 1$ ⑦ depreciation will result in high imported inflation as well as significant increase in

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import expenditure for household \rightarrow affordability will fall more than a country like Australia or Malaysia where they have many domestic subst, so PED > 1
Household's import expenditure will fall as they switch to domestic goods and lower imported inflation. The material SOL for a country that is small and dependent on import likely to fall more than of a country that is large and less dependent on import.

Thesis 2: Government will have more tax revenue due to the export demand increasing

As mentioned, the depreciation will stimulate the economic growth of a country \rightarrow households and exporting firms will have more income and profit \rightarrow more income and corporate tax revenue can be collected \rightarrow more funds for the government \rightarrow increase ability to spend on the provision of public and merit good such as defense and healthcare/education \rightarrow making these goods more affordable \rightarrow more qty enjoy \rightarrow material SOL improve. In addition, with greater access to healthcare and education \rightarrow healthier and more educated citizens \rightarrow increase in non-material SOL

EV: Depends on the budget objective of a government

For a developing country like Myanmar/Vietnam, the government may be more focus on economic development of the country \rightarrow the amount of additional fund put into economic developmental projects like industrial parks/land clearance for commerce use/building of roads \rightarrow increase in non-material SOL will not be significant. While developed countries like US/Norway, government may be more focus on achieving sustainable growth \rightarrow more funds will be put into encouraging of green tech/healthcare/education \rightarrow improve non-material SOL more significantly.

Anti-thesis: Increase export demand \rightarrow higher pollution

As mentioned earlier, depreciation of exchange rate \rightarrow increase in export demand and higher economic growth \rightarrow higher production of goods and service \rightarrow more goods and service produced \rightarrow higher level of industrial pollution \rightarrow worsen non-material SOL

Ev: Depends on country's government policy on regulating industrial pollution

Conclusion:

Small and open economy might not have improvement in the material SOL in SR, but a persistent depreciation will worsen that material SOL due to the rising imported inflation. while large and less open economy may be able to experience improvement in material SOL. The improvement in the non-material SOL due to

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depreciation will be dependent mainly on the government's action rather than the depreciation of the exchange rate.

Level	Descriptor	Marks
L3	<p>For a well-developed and balanced answer that clearly explains how a depreciation in exchange rate of a country will affect the standard of living of her population positively and negatively.</p> <p>Answers are well-supported with appropriate examples in various countries.</p>	8 - 10
L2	<p>For an undeveloped answer which attempts to explain how a depreciation in exchange rate of a country will affect the standard of living of her population positively and negatively.</p> <p>Answers contains no/some appropriate examples.</p> <p>Max 5m – one-sided answers that only explains for either a) material or non-material SOL, or b) positively affect or negatively affect SOL.</p>	5 - 7
L1	<p>For an answer that is largely irrelevant or only contain superficial knowledge and understanding.</p> <p>Answer may have conceptual errors.</p>	1 - 4
Evaluation		
E3	For valued-judgements made on the appropriateness of measures well-supported with economic reasonings.	4 - 5
E2	For judgement(s) on the appropriateness of the measures that is largely unsubstantiated or unsupported.	2 - 3
E1	For an incidental evaluative comment.	1

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IJC Prelim 2018 Paper 2 Question 5

Explain why strong economic growth is important but insufficient for most developed economies and discuss appropriate policies governments can adopt to achieve inclusive growth in their societies. [25]

Two main parts to the question:

(a) Explain why: provide reasons for

- (1) Why strong economic growth is important for developed economies
- (2) Why strong economic growth is insufficient (focus more on this)

(b) Discuss appropriate policies govt... achieve inclusive growth in (various) societies.

	Suggested Key Points for Answer	Remarks
	<p>Strong economic growth can be interpreted as significant increases in output produced.</p> <p>Strong economic growth is important because it can bring about many benefits to the economy:</p> <ul style="list-style-type: none"> - Improve material SOL <p>Strong EG -> significant increase in real national income -> increased disposable household income -> increase level of consumption -> increase material SOL</p> <ul style="list-style-type: none"> - Improve and maintain non-material SOL <p>For developed countries, strong EG can allow for sufficient taxes to be raised and to maintain government spending on key institutions like healthcare and education -> maintain literacy rates, healthcare standards -> important for non-material SOL</p> <ul style="list-style-type: none"> - EG can reduce cyclical unemployment. <p>With strong economic growth, firms increase derived</p>	<p>Students can also interpret as sustained growth i.e. actual + potential growth.</p> <p>Many students also wrote about economic growth influencing investors' expectations and enhancing business confidence in the</p>

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	<p>demand for workers -> more workers are employed -> reduce cyclical unemployment.</p> <p>However achieving strong economic growth is not sufficient for most developed economies because it can create more problems and compromise other goals:</p> <ul style="list-style-type: none"> - Achieve strong EG does not necessarily solve structural unemployment problems that accompanies growth and occurs due to globalization and technological changes. - Strong EG is insufficient if Gini coefficient is high because it may create greater socio-economic divisions in society in terms of income as gains from growth increasingly accrue to the high income earners. - Strong EG can lead to greater ecological damage and lead to irreversible effects on the living environment -> not sustainable growth. 	<p>economy, thus attracting FDI. This is accepted as well if well-elaborated.</p> <p>These ideas can be developed into arguments.</p> <p>Since the command word is Explain, no evaluation is needed at this stage.</p>
	<p>Inclusive growth refers to economic growth that is broad-based and benefits all segments of society, especially providing special consideration to the lower income groups or those adversely affected by structural changes in the economy.</p> <p>To achieve inclusive growth:</p> <ul style="list-style-type: none"> - Fiscal approach(adjusting tax and subsidies for redistribution purposes) <ul style="list-style-type: none"> a. Making taxes more progressive in the economy i.e. progressive income tax. Raising the tax rates for higher income groups. With economic growth -> higher income levels -> those falling into higher tax brackets -> pay 	<p>Students may use the example of</p>

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	<p>higher taxes -> increase government revenue -> allow for spending on various subsidies to the lower income groups. Redistribution of income from the high-earners to low-income.</p> <p>(i) Is it effective? It is effective to the extent that raising taxes on the higher income does in fact increase the tax base/tax revenue. Income taxes may incentivize residents to spend more time on leisure and work less because the opportunity cost of leisure has fallen (since the net benefits of work is decreasing for an individual). If the higher income earners work less, economic growth will be reduced and income tax revenue would fall, defeating the objective of achieving inclusive growth at both ends.</p> <p>(ii) Moreover, this is especially the case for countries with relatively open borders to capital and labour flows. Workers and firms can easily relocate to other countries with better tax rates if these countries were to make increase their tax rates. In the age of globalization, this is increasingly a concern for developed economies. Thus the option of making taxes more progressive may not be a very sound option. (Elaborate using AD-AS framework if necessarily)</p> <p>(iii) Are there other trade-offs? Depends on the society's value system and political preferences. Depends on government's efficiency, corruptibility, and whether NGOs and non-profits are already playing an active role in the economy.</p> <p>b. Direct subsidies for lower-income such as GST vouchers, income supplements.</p> <p>(i) May indirectly create inflation via increased consumption and rise in AD that blunts the effects of the monetary benefits. Inflation is particularly bad for the lower-income workers as their wages tend to stagnate and rise slower than inflation due to slow productivity growth in these jobs. This erodes purchasing power of households and may be counter-productive to achieving inclusive growth.</p>	<p>negative income taxes used in some developed economies such as Singapore. Workfare is a type of negative income tax where low-wage earners are given income supplements by the government. This not only serves to reduce the income inequality and promote inclusivity, but also creates further growth via actual (income transfer increases C and AD) and potential growth (incentivizes more older workers to enter the labour</p>
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- c. Means-tested policies in areas such as healthcare, housing and education.
- (i) Allows benefits of economic growth to be more widespread to all segments of the population especially to those who cannot afford it.
- d. Supply-side policies to target slow growing industries and their workers.
- (i) Subsidies for sunset industries
 - (ii) Retraining for workers who are structurally unemployed e.g. SkillsFuture
- e. Trade policies
- (i) Protectionist policies to target certain disadvantaged or declining industries.

Evaluation ideas:

- (i) What's appropriate in the short-term may not be appropriate in the long-term

Use of protectionist policies and other subsidies may be feasible in the short-run to cushion the negative impact of globalisation and slow productivity growth on some sectors, but could lead to worsening market inefficiencies and incur high opportunity costs for the economy. Instead the government needs to find ways to improve factor mobility across sectors and allow more people to participate in high-growth sectors and enjoy the benefits of strong economic growth.

- (ii) Growth is important and should not be sacrificed in return for inclusivity. -> incentives should not be heavily distorted to favour less work and reduce growth.
- (iii) Depends on specific country's economic context and current challenges confronting the economy -> different set of policies may be more appropriate.

vel	Descriptors	arks
3	L3: Expect a thorough knowledge of facts and theory with an excellent ability to describe and explain in a precise, logical and reasoned manner. Considerations of the different consequences of economic growth to	- 20

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	<p>developed economies and the appropriateness of policies to achieve inclusive growth should be clearly justified. <u>New illustrations and examples</u> apposite to the materials discussed should be introduced as further evidence of the ability to recognize the <u>principles of the question</u> and their <u>application to relevant current situations</u>. Students should be able to criteria referenced the context where policies could be appropriate overall and when it is not appropriate.</p> <p>3: Expect a good knowledge of the facts and theory of the question, clear evidence of the ability to use the facts and theory with accurate reference to the question with a novel application. Answers address the reasons for pursuing strong economic growth in developed countries and highlights why it may not be sufficient. Clear discussion of appropriateness of various policies to achieve inclusive growth introduced with a range of policies introduced.</p>	
2	<p>-2: Explanation of relevant reasons for why economic growth is important but insufficient for developed economies. A two-sided answer with mention of various policies to achieve inclusive growth and an attempt to explain them and consider their limitations. The answer will be relevant to the question but the theory may be incompletely explained.</p> <p>-2: Expect an accurate although undeveloped explanation of the facts relating to the question together with an explanation of the theory, and evidence of some ability to discriminate and form elementary judgements. BUT do not expect a clear logical presentation. There will not be much evidence of the ability to recognise unstated assumptions, nor to examine the implications of a hypothesis, nor the ability to organise ideas into a new unity.</p> <p>1: Answer only addresses the consequences of economic growth.</p> <p>10: Well-presented ONE SIDED argument of various policies to achieve inclusive growth.</p>	- 14
1	<p>L1: Answer shows some knowledge but does not indicate that the meaning of the question has been properly grasped, Basic errors of theory or an inadequate development of analysis may be evident.</p> <p>Low L1: Where answer is mostly irrelevant and only contains a few valid points made incidentally in an irrelevant context.</p>	1- 8
3	<p>An answer that (so far as required by the question) builds on appropriate analysis to evaluate critically alternative theoretical explanations, contemporary issues, perspectives and policy choices, that recognises unstated assumptions and evaluates their relevance, and that synthesises economic arguments to arrive at well-reasoned judgements</p>	- 5

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	and decisions.	
:2	n answer that makes some attempt at evaluation or a conclusion that answers the question but does not explain the judgement or base it on analysis.	2- 3
:1	n answer that gives an unsupported evaluative statement(s).	1

6 Globalisation often has influences on economic agents in an economy. Consumers, producers and government are affected by the increase in trade, labour and capital mobility from globalisation.

Discuss whether globalisation will always be desirable to the different economic agents in an economy.

[25]

Command: Discuss

Content: Consequences of globalization

Context: General context but answers should be linked to different economic agents, government, consumers and producers.

Question requirement:

- 1) Effects of globalization
 - a. Increase in Trade
 - b. Increase in capital
 - c. Increase in labour
- 2) Considerations of the different economic agents
 - a. Government
 - b. Consumers
 - c. Producers
- 3) Desirability
 - a. Government: Achieving microeconomic (Efficiency, SOL, equity) or macroeconomic goals (Economic Growth, low inflation, low unemployment and satisfactory BOP).

Organization of the answers:

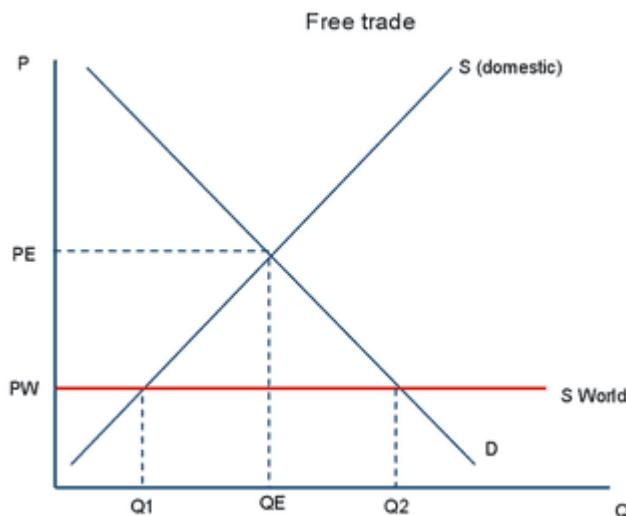
Recommended organization: Either by the agents or by desirability and undesirability then infused the effects of globalization into the answer. Considerations of possibilities and likelihood of the effects occurring and application to the real world context would best answer the question. Given the open nature of the question and the limited time constraint, the priority of the answer should be on the differing

PRELIM SUGGESTED ANSWERS

agents. All answers should be directly addressing the effects of globalization and should not just briefly mention globalization.

Consequences of globalization	<p><u>Increase in Trade</u></p> <p>Globalization enhances connectivity between economies. With better communication technology, economies are able to import goods and services across different economies. E.g. Online shopping platforms like Amazon and Taobao facilitates the sales of goods and services between economies. Better transport technology also enable economies to trade at a lower cost. E.g. With better transport technology like more lightweight vehicle materials from cast iron and steel to magnesium aluminum alloys and carbon fibre constructions will allow for faster and more efficient transportation. Products could be transported at a faster rate and more products could be transported, therefore average cost of production is lower.</p>
Government	<p><u>Desirable only when economies have the comparative advantage in the production of goods and services.</u></p> <p>Increase demand for exports from better connectivity with different economies, higher demand for the goods and services. In addition, with lower transport costs, prices of exports can be lower, given that exports have many substitutes available from the international market, demand is price elastic. Quantity demanded will increase more than proportionately, where export revenue will increase.</p> <p>Links to the different Aims:</p> <p>Increase net export, increase AD, and increase actual economic growth.</p> <p>Improves trade balance in current account of BOP.</p> <p>***Countries without CA, would end up importing more goods and services.</p> <p>Fall in domestic consumption of goods and services if imported goods are close substitutes with high cross elasticities. They would experience a decrease in actual economic growth and a worsening of trade balance in current account of BOP.</p>
Consumers	<p><u>Desirable in the short run when consumers have access to the goods and services.</u></p>

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Prices of goods will be lower for the consumers from PE to PW while they enjoy a higher quantity of goods and services from Q_e to Q_2 . The variety of goods and services enjoyed will also be higher since an economy opened to free trade from globalization can access the goods and services from different economies. E.g. Consumers in Korea do not just have access to automobiles like Kia and Hyundai but also automobile from Japan like Honda and Toyota. Consumer surplus also increased from with free trade.

*** In the long run, the consumption of additional imports could mean a lower domestic consumption if they are substitutes, especially for larger economies that has their own domestically produced goods and services which are potential close substitutes to those in the world market. The fall in domestic consumption will reduce AD, resulting in a fall in RNY for the consumers who might have lesser purchasing power and therefore lowered ability to demand for more goods and services, decreasing SOL.

Producers

Undesirable if the goods produced are substitutes to the trading partners.

Close substitutes with $X_{ED} > 1$, the demand for domestic goods will fall by more than proportionately resulting in a fall in total revenue for the producers.

With globalization and more trade, price falls from PE to PW, quantity sold would fall from Q_e to Q_1 , producer surplus would also fall.

*** If complements, the demand for the domestic goods might increase bringing about more revenue. E.g. if the company offers transport services, the imported goods and services would require delivery services provided by the domestic market

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	enhancing the revenue. If the traded goods are factors of production that could be purchased at a lower price, this will bring about cost savings for producers, increasing their overall revenue.
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Consequences of globalization	<p><u>Increase in Capital</u></p> <p>Better information technology meant that investors would be better able to attain information about the different economies and therefore invest in the different countries based on the information. Furthermore, better information flow facilitates more accurate business plans and encourages FDI flow between economies. E.g. Facetime facilitates meetings across different economies.</p> <p>Better transport technology would allow the management team to travel between economies for more face to face administrative and management meetings.</p> <p>In addition, with more outsourcing and offshoring possible, there is greater segmentation of production processes, increasing capital flow between economies.</p> <p>*Outsourcing: Moving internal operations to a third party. Moving transactional activities to the experts to give an organization the capacity to focus on its expertise.</p> <p>*Offshoring: Primarily a geographic activity. Takes advantage of the cost differentials by relocating factories from costly countries to cheaper economies.</p>
Government	<p><u>Desirable only when economies complement with relevant regulations to ensure sustainability of the economy.</u></p> <p>Increase in long term capital inflow brings about an increase in AD leading to actual economic growth. Increase in quantity of capital leads to an increase in productive capacity of the economy, LRAS shifts to the right, economy enjoys potential economic growth.</p> <p>In addition, long term capital inflow leads to an improvement in the capital and financial account of BOP.</p> <p>However, with more foreign direct investments in the economy, especially in manufacturing sectors where there could be production of air pollutants or electronic wastes that could pollute the environment, it would lead to a lowering of the non-material standards of living in the economy. Despite enjoying the economic growth, the environmental degradation would stunt the growth rate in the long run due to the exponential depletion of the resources from excessive use and pollution, making growth unsustainable.</p> <p>E.g. In China where it is the world manufacturing factory, air</p>

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	<p>pollution from carbon emission if energy production is an imminent problem where the government is recently implementing measures and regulation to reduce the pollution problem.</p> <p>***If the capital flows were able to enhance and develop more green technology transfer, it would be more desirable for the economy and growth would be more sustainable.</p>
Consumers	<p><u>Undesirable when the capital inflow brings about market dominance and not more competition in markets.</u></p> <p>For small economies where the capital inflows that are often huge MNCs, tend to dominate the economies. MNCs usually have larger production output and enjoys a higher economies of scale where the lowered AC enjoyed is able to be translated to lower prices when firms pass on their cost savings.</p> <p>Lower prices of the goods by MNCs, leads to a decrease in demand for domestic goods and services. In cases where they are close substitutes and $XED > 1$, the decrease in demand would be at a greater extent and domestic firms might suffer a subnormal profit. When that persist in the long run and the domestic firms shut down, MNCs will dominate the domestic market. With market domination and lack of substitutes, MNCs will enjoy a more price inelastic demand where they would charge at a higher price in order to earn more revenue. The higher price charged and the lower output would be undesirable for consumers where they would have been exploited by the MNCs that are dominating the market.</p>
Producers	<p><u>Desirable only when producers are considering outsourcing or offshoring or when they are the ones expanding their market overseas.</u></p> <p>Capital mobility-> better outsourcing-> Enjoys a lower cost of production by expanding production processes in other economies. E.g. Assembly work that is more labour intensive was outsourced to countries like Taiwan, China for some electronics like smartphone. Especially for countries with higher labour cost, the outsourcing of this assembly process that is labour intensive would reduce the cost of production for the producers.</p> <p>Expansion of sales market overseas-> e.g. Franchise-> increase</p>

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	<p>consumer market-> Increase potential demand for the good-> higher output-> increase ability to enjoy economies of scale -> e.g. technical economies of scale where production processes have been specialized and labours could increase productivity by focusing on one production process.</p>
Consequences of globalization	<p><u>Increase in Labour</u></p> <p>Better information technology allows individuals to easily hunt for jobs in other economies. E.g. jobbatical and NPAworldwide works are job agencies that recruits globally and enables labour to be more mobile across different economies.</p> <p>Transport technology allows labors to be geographically mobile and able to travel easily across different regions. E.g. With more airlines that could fly further and faster enhances traveling experience and encourages more travelling and labour mobility. In fact, there are considerations for supersonic and hypersonic flight that could cut journey times by half.</p>
Government	<p><u>Undesirable if it brings about non- inclusive growth.</u></p> <p>Labour mobility</p> <p>Increase inflow of low skilled labour-> increase supply of low skilled, low wage labour-> decrease wages for low wage labour-> widens income gap</p> <p>Increase inflow of high skilled labour-> increase supply of high skilled, high wage labour-> decrease income for high wage labour-> reduce income gap</p> <p>*** Dependent on the economies preference for the labour and whether the foreign labour policy is targeting the higher or lower skilled labour</p> <p>Generally desirable when considering the inflation of the economy.</p> <p>Higher supply of labour-> reduction in labour cost across all sectors of the economy-> decrease unit COP-> increase SRAS-> reduce cost push inflation</p> <p>***Only if the economy is the one attracting labour, usually for developed economies, the labours from developing economies tend to flow towards developed economies in the hope to find jobs that offers a higher pay.</p>
Consumers	<p><u>Desirable if economy is labour intensive and prices of goods and services are lowered as a result of lowered cost.</u></p> <p>Increase in available labour supply-> lowered wages-> lowered cost of production for firms-> pass on cost savings to consumers-</p>

PRELIM SUGGESTED ANSWERS

	<p>> lower prices and better accessibility to the goods and services.</p> <p>***If it's labour intensive and labour takes up a higher proportion of the total cost of the firms, the cost saving would be significant and the lowering of prices could happen.</p> <p>Or</p> <p>Increase in supply of labour-> better able to engage the high skilled labours who can engage in product innovation and research-> improvement in quality of the products or increase in the variety of goods and services available-> higher satisfaction derived.</p>
Producers	<p><u>Desirable for producers in developed economies than developing economies.</u></p> <p>Increase in available labour supply-> lowered wages-> lowered cost of production for firms-> Reduction in AC-> Increase in total profit</p> <p>The reduction in cost would shift AC1 to AC2, together with MC, new market Qmax2 and new Pe2 brings about a higher supernormal profit.</p> <p>***If it's labour intensive and labour takes up a higher proportion of the total cost of the firms, the cost saving would be significant and the increase in profits would be significant</p>

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Level	Descriptors	Marks
3	<p>L3: Expect a thorough knowledge of facts and theory with an excellent ability to describe and explain in a precise, logical and reasoned manner. Considerations of the different consequences of globalization and the different effects on government, consumers and producers should be explicitly explained. <u>New illustrations and examples</u> apposite to the materials discussed should be introduced as further evidence of the ability to recognize the <u>principles of the question</u> and their <u>application to relevant current situations</u>. Students should be able to criteria referenced the context where globalization could be desirable and when it might be undesirable.</p> <p>-3: Expect a good knowledge of the facts and theory of the question, clear evidence of the ability to use the facts and theory with accurate reference to the question with a novel application. Answers could be a good mix of differing consequences on consumers, producers and government, anchoring on trade, labour and capital mobility with a balance discussion on the desirability.</p> <p>5: If students only mention 2 out of the 3 economic agents where analysis is well presented</p>	5- 20
2	<p>L2: Evidence of an ability to identify the consequences of globalization on the different economic agent, some ability at graphs where relevant, fair ability to apply known laws to new situations where answers are more theoretical. The answer will be relevant to the question but the theory may be incompletely explained.</p>	14

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	<p>.2: Expect an accurate although undeveloped explanation of the facts relating to the question together with an explanation of the theory, and evidence of some ability to discriminate and form elementary judgements. BUT do not expect a clear logical presentation. There will not be much evidence of the ability to recognise unstated assumptions, nor to examine the implications of a hypothesis, nor the ability to organise ideas into a new unity.</p> <p>I2: If students only mention 2 out of the 3 consequences where analysis is well presented.</p> <p>2: Well presented ONE SIDED argument.</p>	
1	<p>-1: Answer shows some knowledge but does not indicate that the meaning of the question has been properly grasped, Basic errors of theory or an inadequate development of analysis may be evident.</p> <p>Low L1: Where answer is mostly irrelevant and only contains a few valid points made incidentally in an irrelevant context.</p> <p>Max 8: If only one agent has been explained but well balanced analysis with considerations of the different effects of globalization. / If only one consequence of globalization has been explained with considerations of the different economic agent.</p>	2- 8
E3	<p>n answer that (so far as required by the question) builds on appropriate analysis to evaluate critically alternative theoretical explanations, contemporary issues, perspectives and policy choices, that recognises unstated assumptions and evaluates their relevance, and that synthesises economic arguments to arrive at well- reasoned judgements and decisions.</p>	1- 5
E2	<p>n answer that makes some attempt at evaluation or a conclusion that answers the question but does not explain the judgement or base it on analysis.</p>	2- 3
E1	<p>n answer that gives an unsupported evaluative statement(s).</p>	1

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JURONG JUNIOR COLLEGE
JC2 PRELIMINARY EXAMINATION 2018

ECONOMICS

Higher 2

9757/01

Paper 1

27 August 2018

2 hours 15 minutes

READ THESE INSTRUCTIONS FIRST

Write your name and class on all the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use an HB pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** questions.

Begin each case study question on a fresh sheet of writing paper.

Attempt case study questions in ascending order of question sequence and indicate questions attempted clearly on answer sheet.

Fill in the necessary information on the cover sheet.

At the end of the examination, tie all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question.

This document consists of **7** printed pages.

[Turn over

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Answer all questions.

Question 1

World Cup and its related industries

Table 1: Selected Indicators for Russia over the period 2013-2017

	2013	2014	2015	2016	2017
Annual rate of growth in real GDP (%)	1.8	0.7	-2.8	-0.2	1.5
Inflation rate (%)	6.8	7.8	15.5	7.0	3.7
Unemployment rate (%)	5.5	5.2	5.6	5.5	5.2
Current account (% of GDP)	1.4	2.7	4.9	1.9	2.2
Carbon emission (metric tons per capita)	10.8	10.5	10.3	10.2	10.1

Source: OECD

Table 2: Tickets at the 2018 World Cup Final

Category 1	Category 2	Category 3
US\$1 100	US\$710	US\$455

Source: fifa.com

Extract 1: World Cup tickets

Major football organisations implement the strategy of different category prices based on the attractiveness of specific seat locations. That typically means that the closer to the centre of the field the category of seats is (Category 1), the better the view and the more valuable it will be for the fans and supporters. Tickets at the 2018 World Cup range from \$105 for Category 3 at group stage matches to \$1 100 for Category 1 at the final. FIFA said that only tickets bought from the official website will be valid. All ticket holders need to hold a FAN ID, an identification document with their photographs, together with a valid match ticket in order to enter the stadiums.

Source: Reuters, 13 September 2017

Extract 2: Domino's takes on 3 000 new staff

With Russia's economy recovering from negative growth, Domino's, the popular pizza chain, wants to take on 3 000 new staff. To compete with other close rivals such as Pizza Hut and Papa John's, Domino's has launched their new pizza "The Meatfielder" that is packed with pepperoni, chorizo, meatballs, smoked bacon and its secret sauce. It has also used the prominent figure of retired English footballer Jimmy Bullard to publicise itself as the food of choice during the World Cup.

Domino's has finalised a new multi-year beverage supplier contract with The Coca-Cola Company. "We are excited that Domino's fans can continue to 'Open Happiness' with a Coca-Cola beverage while watching the World Cup," said Tony Ferlauto, Coca-Cola Europe Vice President of national sales. Customers can celebrate this week by including a Coca-Cola product in their online order – while also enjoying 50 per cent off any pizza at menu price.

Source: *dailystar*, 14 June 2018 and *Forbes*, 26 January 2018

Extract 3: Nike's just-do-it behaviour

Sportswear companies have become increasingly interdependent in the competitive industry, with Nike, Adidas, Reebok and Puma taking up 70 per cent of market share, as they consider their competitors' reactions when setting prices, output, advertising budgets and other business models. Such interdependence is not the only reason affecting the decisions of Nike, the world's largest manufacturer of sportswear, over the past few years.

In 2014, Nike reported a substantial jump in the cost of production due to rising cost of raw materials such as cotton and nylon that pushed down its profit margins by 0.5-1 per cent. Nike said that the company was successful in passing heightened costs on to consumers.

However, in 2016, Nike allowed retailers to give 25 per cent discounts all year when its main competitor, Adidas, experienced strong growth, and has had a number of successful product launches such as its "athleisure" clothing line. Nike's reaction, seeking to regain market share, is very common. Lowering prices is very easy and has an immediate effect of raising its sales.

Come 2018, the World Cup isn't just a battle between countries, but also a competition between the two biggest sportswear companies. For example, the World Cup prompts consumers to buy the Nike jersey they see on Cristiano Ronaldo or the Adidas jersey they see on Lionel Messi.

Source: Adapted from *pricebeam.com*, 24 April 2017 and *Financial Times*, 9 December 2015

Extract 4: Does hosting a World Cup make economic sense?

Organisers of the World Cup in Russia have predicted that the total economic impact of the tournament could be as high as \$30.8 billion by 2023. Indeed, the case is often made that hosting any major sporting event, can boost a nation's economy by attracting tourists, initiating important infrastructure projects, creating direct jobs and indirect jobs across many industries ranging from food and beverages to sportswear, and showcasing Russia as a good place to do business. Economists argue that there may be limited economic impact at the national level given the short duration of the World Cup and the very large size of the Russian economy. Moreover, hosting the tournament could lead to an increase in consumer prices in Russia.

There is also the opportunity cost of hosting a major sporting tournament given that governments have limited amount of resources and that Russia has been running on a budget deficit since 2012. The money spent on new or upgraded infrastructure is likely to be more wisely used in long-term investments in critical areas of the economy. An increase in spending should lead to a rise in Gross Domestic Product, but the World Economic Forum's Inclusive Growth and Development Report argues that focusing on inclusive growth is more important. This means spending to deliver both economic growth and broad-based, sustained improvements to living standards.

Unfortunately, sporting infrastructure is expensive to construct and run, takes up scarce resources, and is often difficult to use with enough frequency to cover maintenance costs. A stadium is not really essential to the economic well-being of an average worker. Economist Andrew Zimbalist lists examples of the white elephants left barely used in host cities once tournaments have ended. Before the 2010 World Cup in South Africa, low-income residents living in settlements near tournament sites were reportedly evicted in an attempt to improve the country's image, leading many to question whether the money would have been better spent on improving impoverished communities instead.

Source: *weforum.org*, 7 June 2018

[Turn over

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Extract 5: A more sustainable World Cup in Russia

Hosting the World Cup does bring about problems. Firstly, air pollution is already a concern to people across Russia, who are well aware of the main cause of the problem that is emissions from fossil-fuelled vehicles. With the influx of foreign visitors, such air pollution will only worsen. Authorities of some host cities are doing something about the problem. In Moscow, to encourage people to switch to more environmentally friendly electric vehicles, 78 charging stations for electric vehicles have been installed in parking lots across the city.

Secondly, waste accumulation, such as plastic food packaging, affects the environment negatively in terms of the pollution of soil, water and air, and can cause serious harm to humans and other lives. As the organisers of a mega sporting event, whose staging creates a significant amount of waste, FIFA and the Russian Local Organising Committee have developed a waste management concept to tackle the problem. This includes a set of approaches, requirements and plans for organising tailor-made waste collection and recycling processes at all official sites and events – along with the communication tools to inform and motivate spectators to dispose of their waste accordingly.

Source: *greenpeace*, 27 June 2018 and *euobserver*, 17 April 2018

Questions

- (a) Using Table 1, identify the year that Russia has the lowest growth in nominal GDP and state the growth rate. [2]
- (b) Explain why the ticket pricing strategy for the 2018 World Cup Final as shown in Table 2 can be considered an example of third-degree price discrimination. [4]
- (c) Explain how Russia's hosting of the 2018 World Cup would create 'indirect jobs'. [2]
- (d) Explain how Domino's can make use of cross elasticity of demand and income elasticity of demand concepts to increase its revenue during the World Cup season. [4]
- (e) Assess how far price and output decisions of Nike are dependent on the actions of its competitors. [8]
- (f) With reference to the data where appropriate, assess whether the gains from hosting the 2018 World Cup outweigh the losses. [10]

[Total: 30]

Question 2

Trade Issues

Table 3: United States (US) – China trade in goods

Year	2013	2014	2015	2016	2017
US exports to China (US\$ billions)	121.7	123.7	115.9	115.5	129.9
Chinese exports to US (US\$ billions)	440.4	468.5	483.2	462.5	505.5

Source: United States Census Bureau

Extract 6: Two faces of global trade

The undeclared tariff war over steel has again underlined the perils of global trade. Global trade can open new markets just as easily as it can take them away. The root cause of the trade war – a steel glut in China – originated in 2008, when Beijing introduced massive stimulus spending to stave off the global recession. China's capacity of steel production rose from 644 million tonnes that year to 1.14 billion tonnes in 2014. As the Chinese economy has slowed down its growth, the growth in the domestic demand for steel has reduced. Its effort to unload its stockpiles in the global markets has triggered competitive price cutting to clear the glut, threatening steel producers in many countries.

Earlier this year, the US imposed whopping 265 per cent anti-dumping duties on the cheap Chinese steel. The European Commission followed suit, imposing 22 per cent duties on Chinese steel imports. As New Zealand initiated an anti-dumping investigation, Beijing has threatened to cut dairy imports from the country, while Mexico is getting ready to impose anti-dumping duties on China.

Source: *The Straits Times*, 8 September 2016

Extract 7: Exchange rate and trade balance

United States President Donald Trump had pledged during his election campaign to declare China a currency manipulator, based on unfair competitiveness arising from an alleged undervalued Chinese yuan, and slapped a 45 per cent tariff equivalent to some of the currency devaluation, on all Chinese imports on his first day in office.

The charge by US that Japan, China and European Union are using the devaluation of their currencies to gain trade surpluses appears to have created widespread alarm. Bank of Japan governor Haruhiko Kuroda said that Japan's monetary policy has been implemented "solely for the purpose of achieving our price target at the earliest date possible. We do not directly target exchange rates in guiding monetary policy". The Vice Finance Minister for international affairs also said that Japan's monetary policy is aimed at achieving the domestic goal of ending deflation, and is not aimed at exchange rates.

At a time of near full employment, the Trump administration has put in place an expansionary fiscal policy including a hefty tax cut and increases in public spending. With the US economy continues

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to grow, import spending increases. Given rising inflation, the US Federal Reserve also has had little choice but to raise interest rates, so the US dollar appreciated against the yuan and euro. On the other hand, the European Central Bank has kept rates low for longer than the Federal Reserve for the good reason that the EU's economy recovery has been slower than that of the US.

Source: *The Business Times*, 2 February 2017

Extract 8: Who gains from tariffs?

Cheap imports causing unemployment has emerged as a lightning rod for discontent about global trade. Some 11 000 jobs in the United Kingdom were in danger as Tata Steel, reeling from the effects of cheap Chinese steel, considered closure. In the United States, steel workers now face massive layoffs due to imported Chinese steel.

US President Donald Trump believes his country has been at the losing end when it comes to trade with many other countries. He sees American jobs and wealth going to countries "that have taken advantage of us for years", and wants to fix this by putting "America First". The White House announced a 25 per cent tariff on US\$50 billion worth of Chinese products, in a bid to address what it sees as a lopsided trade balance. Last year, the US exported US\$129.9 billion of goods to China, but imported US\$505.5 billion of Chinese goods. Besides China, the US has also imposed tariffs on imported steel and aluminium from other trading partners.

While the US steel and aluminium producers may be cheering the prospect of lower competition from overseas, the downstream industries that are the consumers of these essential inputs are crying foul. The cascading effects of higher prices for steel and aluminium will ripple through industries as varied as energy, construction, automobiles, engines and components, appliances, brewing, machine tools, aircraft, shipbuilding and defence. Collectively, the companies that use steel and aluminium as inputs employ several times more workers across the US than the steel and aluminium industries do combined. The tariffs may also potentially induce some US manufacturers to offshore more of their production to countries where steel and aluminium prices are lower.

China and the European Union are hitting back at the US tariffs. China plans retaliatory tariffs on imports from the US of a range of goods, including cars, beef and agricultural products, while the EU is set to slap tariffs of 25 per cent on some €2.8 billion of US products, from bourbon and peanut butter to Harley-Davidson motorcycles and Levi's jeans.

Source: *The Straits Times*, 23 June 2018

Extract 9: Nobody wants a trade war

Trade friction between China and the United States has been brewing for some time. With the Trump administration's announcement of unilateral tariffs on imports, targeted at China, the spectre of a trade war has never been clearer. But unilateral tariffs are not the correct solution. A trade war between the United States and China is far from inevitable, but if one breaks out, it will gravely undermine the rules-based multilateral system that has underpinned global prosperity since the end of World War II. Countries around the world, big and small, will be hurt.

What matters is not a country's bilateral trade balance with a specific trading partner but its overall trade balance with the rest of the world. Furthermore, the cause of a country's trade deficit lies at home. A trade deficit is the result of a country consuming more than it produces, and it is neither caused nor cured by trade restrictions.

Asia is the fastest-growing export market for US goods and services. As the world's second-busiest port and fourth-largest financial centre, Singapore is a global hub that connects the economies of the United States and Asia. A trade war between the two largest economies in the world will have a big, negative impact on Singapore.

Source: Lee Hsien Loong, *The Washington Post*, 18 April 2018

Questions

- (a) With reference to Table 3, compare the US trade balance with China in 2013 and 2017. [2]
- (b) Identify two categories in the current account apart from the balance of trade in goods and services. [2]
- (c) With reference to the data, explain how you would decide whether a government was justified in imposing anti-dumping duties on the cheap Chinese steel. [4]
- (d) Explain the possible relationships between a country's trade deficit and its economic growth. [4]
- (e) Assess whether 'the charge by US that Japan, China and European Union are using the devaluation of their currencies to gain trade surpluses' is valid. [8]
- (f) Discuss whether the imposition of tariffs is appropriate for a government when confronted with a balance of trade deficit and high unemployment. [10]

[Total: 30]

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JURONG JUNIOR COLLEGE
JC2 PRELIMINARY EXAMINATION 2018

ECONOMICS

Higher 2

9757/02

Paper 2

10 September 2018

2 hours 15 minutes

READ THESE INSTRUCTIONS FIRST

Write your name and class on all the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **three** questions in total, of which **one** must be from Section A, **one** from Section B and **one** from either Section A or Section B.

Start each essay answer on a fresh sheet of writing paper and indicate questions attempted clearly on answer sheet.

Fill in the necessary information on the cover sheet.

At the end of the examination, fasten all your work securely **with the cover sheet at the top**.
The number of marks is given in brackets [] at the end of each question or part question.

This document consists of **3** printed pages.

[Turn over

Answer **three** questions in total.

Section A

One or two of your three chosen questions must be from this section.

- 1 Increasing affluence and hectic lifestyles have led to an increase in demand for on-the-go beverages as well as organic and regular baked products like bread rolls and croissants. Organic baked products differ from regular baked products in that they use organic wheat, which contains lower protein content and is healthier. Meanwhile, bakeries producing organic baked products are concerned with rising prices of organic baking ingredients.

Discuss how the above events may affect the revenue earned from the sales of organic baked products, as well as the prices and quantities of products that are related to organic baked products. [25]

- 2 Grab has taken over Uber's operations in Southeast Asia. Upon investigation, the Competition and Consumer Commission of Singapore has decided that the Grab-Uber merger would make the private hire car market less competitive and hurt consumers. As a result, it has proposed financial penalties on Grab and Uber.

(a) Explain the benefits and costs of the merger to Grab. [10]

(b) Discuss the economic justifications for the intervention by the Competition and Consumer Commission of Singapore (CCCS) to protect consumers when firms decide to merge. [15]

- 3 There is considerable debate over the need for government to continue to provide cash grants to consumers and intervene in markets which fail.

(a) Using examples, explain why inequity and the existence of positive externalities will lead to market failure. [10]

(b) Discuss whether government providing cash grants to consumers is the best way to correct for both these types of market failure in Singapore. [15]

Section B

One or two of your three chosen questions must be from this section.

- 4 Japan's debt-to-GDP ratio, at 240.3%, is the highest among developed countries, the result of growing year-on-year fiscal deficits since the early 1990s. However, fixing the budget has taken a backseat as Japan continues to struggle with deflation and a rapidly ageing population.
- (a) Using production possibility curves and AD/AS analysis, explain how Japan's ageing population would affect its economy. [10]
- (b) Discuss whether the Japanese government should be more concerned with deflation or its growing fiscal deficit in light of its ageing population. [15]
- 5 (a) Explain the internal and external factors that may result in a country's failure to achieve internal price stability. [10]
- (b) Discuss whether the supply-side policies of promoting research and development (R&D) and infrastructure development can achieve various macroeconomic objectives. [15]
- 6 Discuss the possible impact of globalisation on developed and developing economies and the policy measures that the Singapore government could adopt in response to the threats of globalisation. [25]

[Turn over



JURONG JUNIOR COLLEGE

2018 JC2 ECONOMICS 9757 (H2)

PRELIMINARY EXAMINATION

ANSWER BOOKLET

Prelim Answers for Paper 1 CSQ1

- (a) Using Table 1, identify the year that Russia has the lowest growth in nominal GDP and state the growth rate. [2]

Russia has the lowest growth in nominal GDP in 2017 (1m) with the growth rate of 5.2% (1m).

- (b) Explain why the ticket pricing strategy for the 2018 World Cup Final as shown in Table 2 can be considered an example of third-degree price discrimination. [4]

The ticket prices for category 1 seats of the 2018 World Cup Final are higher than that of category 2 and 3 seats (Table 2). This can be considered an example of third-degree price discrimination as the following conditions are satisfied. Firstly, FIFA has market power as there is no alternative supplier selling the World Cup tickets (Extract 1). Secondly, markets are effectively separated/segregated to prevent resale, that is, resale is not possible between seat categories. Category 3 lower-priced ticket holders cannot resell their tickets to those holding higher-priced tickets as ticket holders need to have a FAN ID with their photographs in order to gain entry into hosting stadiums (Extract 1). Thirdly, there is different price elasticity of demand (PED) in the separate markets. On one hand, category 1 seats are closest to the centre of the field and the demand for these seats would be relatively more price inelastic ($PED < 1$) as supporters can have better view and they do not deem other category of seats as close substitutes (Extract 1). On the other hand, demand for category 2 and 3 seats are relatively more price elastic ($PED > 1$) as there is availability of other category seats as substitutes. [3m]

Hence this ticket pricing strategy is an example of third-degree price discrimination as it is the practice of charging different groups of people different prices for the same product (same final match between 2 teams) for reasons not associated with differences in costs of production (no different in costs to produce the seats in the different categories). [1m]

- (c) Explain how Russia's hosting of the 2018 World Cup would create 'indirect jobs'. [2]

Russia's hosting of the 2018 World Cup would create direct jobs in the building of important infrastructure projects (Extract 4), which will lead to higher employment. These workers would then be able to purchase consumer goods, ranging from food and beverages such as Domino's (Extract 2) and sportswear such as Nike (Extract 3). Producers of these consumer goods will expand production and hence hire more workers resulting in the creation of indirect jobs (Extract 4). These workers will in turn lead to further increase in consumption and production of other consumer goods leading to a multiple increase in indirect jobs. [2m as a whole]

- (d) Explain how Domino's can make use of cross elasticity of demand and income elasticity of demand concepts to increase its revenue during the World Cup season. [4]

CED (2m)

Domino's can make use of cross elasticity of demand (CED) concept to increase its revenue. There are other pizza companies such as Pizza Hut and Papa John's that are close substitutes to Domino's. As such, Domino's will have a highly positive CED with them. To make its products less substitutable and decrease the CED value, Domino's can make use of non-pricing strategies, that include product development such as coming up with the new "The Meatfielder" pizza to create real differences and product promotion such as advertising prominent retired English footballer Jimmy Bullard to create imaginary differences (Extract 2). These non-pricing strategies will increase demand for Domino's pizza, hence increasing its quantity and revenue during the World Cup season.

OR

Pizza and beverage are complements that have negative CED value. Since Coca-cola is a strong complement to Domino's, Domino's will have a highly negative CED with Coca-cola. Hence Domino's is able collaborate with Coca-cola to offer bundled packages at discounted price during the World Cup season (Extract 2). Such collaboration will increase demand for Domino's pizza, hence increasing its quantity and revenue during the World Cup season.

YED (2m)

Domino's can make use of income elasticity of demand (YED) concept to increase its revenue. Domino's pizza is considered a normal good with positive YED. Since Russia has recovered from negative growth to positive growth (Table 1 and Extract 2), there is an increase in income and purchasing power of consumers. Hence this increases the demand for Domino's pizza. Domino's can cater to the needs of the more affluent people by developing more premium pizzas and offer more personalised services such as personal cashier. Domino's can also increase the number of workers employed (Extract 2), extend the operating hours and delivery services of its stores. Demand for Domino's pizza will increase, hence increasing its quantity and revenue during the World Cup season.

- (e) Assess how far price and output decisions of Nike are dependent on the actions of its competitors. [8]

The sportswear industry is a competitive oligopoly, with few large dominant firms, Nike, Adidas, Puma and Reebok, taking up ~70% of market share (Extract 3). Although the firms are all price setters that can influence either price or output, there is mutual interdependence between the firms. The action of one firm will have a significant effect on its competitors so much so that these competitors will have strong reactions to any changes in decision made by the firm (Extract 3). Nike's price and output decisions can clearly be seen to depend on the actions of its competitors. The assumption here is that Nike is a profit-maximising firm that produces at an output where marginal cost (MC) = marginal revenue (MR), and it maximise profits through maximising total revenue and minimising total cost.

Price and output decisions of Nike are dependent on the actions of its competitors

Due to mutual interdependence among the sportswear companies, Nike faces a kinked demand curve, which is explained as follows. In this model, rival firms will match each other's price reduction but not price increase. On one hand, if Nike raises its price above equilibrium price, it will experience a fall in its revenue as quantity demanded falls more than proportionately. This results in a more price elastic demand curve above the equilibrium price. On the other hand, if Nike lowers its price below the equilibrium price, it will experience a fall in its revenue as quantity demanded rises less than proportionately. This results in a more price inelastic demand below the equilibrium price. In this case, Nike maximises profits when $MC=MR$, giving rise to price rigidity as any increase or decrease in price results in fall in total revenue. Nike's price and output decisions remain unchanged over a wide range of costs. A small change in the marginal cost of production does not cause equilibrium price to change so long MC still cuts MR at the region of indeterminacy.

Price and output decisions of Nike are dependent on other factors

Change in cost of production

The change in cost of production also influences the price and output decision of Nike. With the substantial rise in cost of raw materials such as cotton and nylon (Extract 3), cost of production increases. This increases the MC of production of sportswear for Nike significantly. At original profit-maximising output, MC is greater than MR implying that the last unit of good sold adds more to Nike's cost than it does to revenue. It is not worth producing the last unit of output as it depletes the firm's profits (incurs losses) and this induces the profit-maximising Nike to cut output to increase profits. Nike will reduce output up to the point where $MC=MR$ and its profits cannot be increased further by decreasing production. Hence price increases,

and Nike successfully passed on the cost increase to consumers in terms of higher price and lower output.

Other objectives of firm

The above factors are based on the assumption that Nike aims to maximise profits by producing at an output where $MC=MR$, and hence makes its price and output decisions accordingly. However, Nike's price and output decisions are also dependent on its objectives. Nike allowed retailers to give 25% discounts all year, implying a decrease in its price, in a bid to compete with Adidas who has other successful product launches, and hence increase its market share (Extract 3). Such a decrease in price will increase quantity demanded, and Nike will produce at an output level where total cost is able to cover total revenue such that at least normal profits are made. Hence price is lower and output is higher as compared to profit-maximising output and price.

Evaluation

In conclusion, price and output decisions of Nike are dependent on the actions of its competitors to a large extent in the competitive oligopolistic sportswear industry due to the strong mutual interdependence among the few dominant firms. Its decisions are more sensitive to the reactions by rival firms. Price is rigid unless there is a substantial change in cost or demand conditions. Hence, aggressive non-price competition such as product promotion (Extract 3) tends to prevail to increase total revenue and maximise profits.

Nevertheless, there are other factors that affect the price and output decisions of Nike. Nike is a large firm that is able to expand output to reap extensive internal economies of scale, such as marketing economies when it is able to promote sales through bulk advertisement. This lowers its long run average cost when advertising cost per unit is lowered. Such cost-savings can be passed on to consumers in terms of lower price and thus higher output.

Level	Knowledge, Application, Understanding, And Analysis	Marks
L2	Well-developed answer that analyses how far price and output decisions of Nike are dependent on the actions of its competitors	4-6
L1	Descriptive answer of how far price and output decisions of Nike are dependent on the actions of its competitors	1-3
E	Reasoned conclusion and judgment on the price and output decisions of Nike	1-2

- (f) With reference to the data where appropriate, assess whether the gains from hosting the 2018 World Cup outweigh the losses. [10]

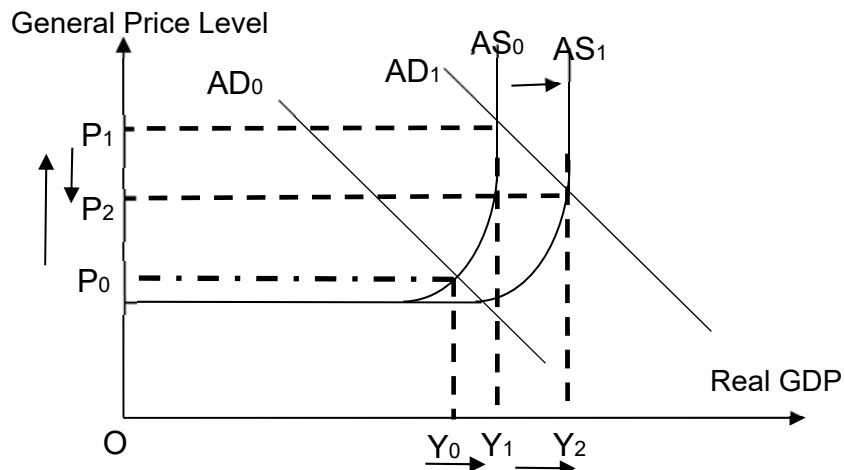
The Russian government makes decisions with the aim of maximising society's welfare. In hosting the 2018 World Cup, the Russian government has to take into account various gains and losses, and consider different impact on the different stakeholders of the economy.

Gains

Economic growth, internal price stability and full employment

With the hosting of the 2018 World Cup, the Russian government can achieve various macroeconomic objectives. The building and expansion of infrastructure such as the stadiums (Extract 4), and in related industries such as aviation and hotel will increase government spending and investment in the economy. Firms in other industries – sportswear and F&B industries – such as Nike and Domino's (Extracts 2 and 3) will expect a rise in demand and total revenue of their products from the hosting the 2018 World Cup. In addition, the influx of tourists to watch the World Cup (Extract 4) will increase the Russia's export of tourism services. As such, the increase in investment (I), government spending (G) and net exports ($X-M$) will result in an increase in aggregate demand (AD), and consequently a multiple

increase in national income via the multiplier process, achieving positive actual growth and increasing the current quantitative standard of living (SOL) of households as the amount of goods and services available for consumption increases. The increase in production by firms will then increase the derived demand for labour, hence creating both direct jobs and indirect jobs in the economy (Extract 4). Moreover, such increase in I and G will result in capital accumulation, increasing the productive capacity and aggregate supply (AS) in the long run. As such, maximum output of the economy increases, achieving positive potential growth, which will increase future SOL of households.



These gains from hosting the 2018 World Cup are likely to be significant. As seen from Table 1, real GDP has recovered from negative growths in 2015 and 2016 to positive growth in 2017. Hosting of the 2018 World Cup is likely to increase the economic growth and reduce the unemployment rate further (Table 1). However, with the increase in AD, assuming Russia's economy is operating near or at full employment level, there may be a rise in general price level (GPL), hence could lead to an increase in consumer prices in Russia (Extract 4). Such demand-pull inflation might be unlikely as the increase in AS in the long run (rightward shift from AS₀ to AS₁) will mitigate the rise in GPL from P₁ to P₂, further lowering the inflation rate as shown in Table 1. Hence, non-inflationary sustained economic growth can be achieved in Russia.

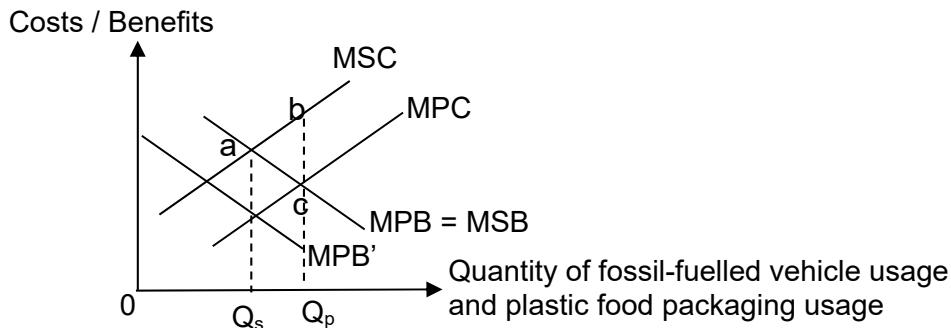
Favourable BOP

With the hosting of the 2018 World Cup, there will be an increase in exports of tourism services, which increases net exports of Russia and improves its current account. The increase in foreign direct investment (FDI) due to the expectation of future rise in profits of firms (Extract 4) will improve its capital and financial account. Overall, balance of payments (BOP) of Russia will improve. As seen from Table 1, current account surplus has been improving, and can be expected to improve even further with the influx of foreign visitors and football fans from all over the world.

Losses

Allocative inefficiency and unsustainable growth

With the hosting of the 2018 World Cup, there will be a rise in usage of fossil-fueled vehicles on roads by foreign visitors and football fans, as well as a rise in waste accumulation such as plastic food packaging by them (Extract 5). As such, negative externalities will be generated. These include air and water pollution that cause respiratory health problems and degradation of marine biodiversity respectively, hence decreasing the current qualitative SOL of households, especially those living in the near vicinity.



Existence of such third-party costs for every additional unit of output consumed, which are marginal external cost (MEC), results in a divergence between the marginal private cost (MPC) and marginal social cost (MSC) where $MSC = MPC + MEC$. Assuming no positive externalities, marginal social benefit (MSB) = marginal private benefit (MPB). Utility-maximising consumers only consider their private benefits (comfort and convenience) and private costs (vehicle and food expenses), ignoring third-party costs, hence consumed at Q_p where $MPB= MPC$. However, the socially optimal level of consumption is at Q_s where $MSB=MSC$. Since Q_p is greater than Q_s , there will be an over-usage of fossil-fuelled vehicles and plastic food packaging, resulting in an inefficient allocation of resources. For every additional unit of output consumed between Q_s and Q_p , social cost is greater than social benefit, resulting in welfare loss of area abc. Due to such negative externalities generated, sustainable growth is also hindered as there will environmental degradation that affects the health of people, as well as depletion of natural resources that adversely affects economic growth in the future as resources become increasingly scarce. These also decrease the current and future SOL of households.

These losses are likely to be less significant. As seen from Table 1, carbon emission in Russia has steadily decreased over the years, implying that air quality is indeed improving. Moreover, the Russian government can reduce the over-usage of fossil-fuelled vehicles and plastic food packaging. For the former, people are encouraged to switch to more environmentally friendly electric vehicles and bicycles (Extract 5). For the latter, the Russian Local Organising Committee and FIFA developed a waste management concept, along with the communication tools to inform spectators to dispose of their waste accordingly (Extract 5). Both of these will decrease the MPB of consumers, hence shifting MPB leftwards to MPB' , reducing the over-usage of fossil-fuelled vehicles and plastic food packaging respectively to the socially optimal level of consumption, Q_s . Such measures also ensures that sustainable growth can be achieved with the protection of environment and prudent use of natural resources.

Income inequity and lack of inclusive growth

With the hosting of the 2018 World Cup, the Russian government will spend its limited funds and use its scarce land for the building of related infrastructure (Extract 4). Such a choice incurs an opportunity cost in terms of the next best alternative forgone. For example, the funds spent to build the stadiums incurs an opportunity cost in terms of forgone spending on other critical areas of the economy such as improving the living conditions of the low-income residents. The scarce land used to build these infrastructure also incurs an opportunity cost in terms of forgone usage of land to shelter impoverished communities (Extract 4). All these will result in a trade-off with inclusive growth in Russia. These losses are quite significant as the gains from economic growth do not create opportunity for all segments of the Russian population as it is not broad-based across economic sectors, thus impeding inclusive growth and contributing to higher income inequity. This will result in a decrease in the average quantitative SOL of households.

Evaluation

To a large extent, the gains from hosting the 2018 World Cup are likely to outweigh the losses. This is due to the level of government intervention in place to minimise the losses, such as public education in the vehicle and plastic food packaging markets to reduce their over-usage, hence reducing inefficient allocation of resources, facilitating sustainable growth and improving SOL. Nevertheless, the effectiveness of such measures depends on the receptiveness of consumers to switch to more environmentally-friendly transport modes and may be difficult to change the mindset of consumers to dispose of their waste properly. Thus the Russian government will have to complement them with other policies, such as taxes and legislations, to improve the allocation of resource closer towards the socially optimal level of consumption, Qs. The government can also intervene appropriately to alleviate the problems of lack of inclusive growth and rising inequity, such as through redistributive policies and skills retraining programme. The government must also not compromise the SOL of its people such as through the eviction of low-income residents who live in settlements near the tournament sites done by the South Africa host in 2010 World Cup.

With the hosting of the 2018 World Cup, the short run positive impact of the rise in I and G of infrastructure development will already been felt. Given the short duration of the 2018 World Cup and the very large size of Russian economy, the government needs to ensure that the gains of economic growth and jobs creation from hosting the World Cup is sustained into the long run. The government needs to find ways to minimise the phenomenal of white elephants, whereby the stadiums are left barely used in host cities once tournaments have ended and ensure that the gains of hosting the World Cup are trickled down to the poor in the long term.

Ultimately, hosting the 2018 World Cup not only brings about tangible economic gains to the Russian economy, it also brings about positive externalities such as heightened patriotism, greater sense of belonging and concerted efforts to nation-building. All these intangible aspects are also what count towards the gains of hosting the 2018 World Cup outweighing the losses.

Level	Knowledge, Application, Understanding, And Analysis	Marks
L2	Well-developed answer on the gains and losses of hosting the 2018 World Cup that covers impact on at least 2 economic agents	5-7
L1	Descriptive answer on the gains and losses of hosting the 2018 World Cup	1-4
E	Reasoned conclusion and judgment on whether the gains from hosting the 2018 World Cup outweigh the losses	1-3

Prelim Answers for Paper 1 CSQ2

- (a) With reference to Table 3, compare the US trade balance with China in 2013 and 2017. [2]

The US had a trade deficit with China in both 2013 and 2017 [1]. The US's trade deficit with China in 2013 was lower than that in 2017 [1].

- (b) Identify two categories in the current account apart from the balance of trade in goods and services. [2]

Net investment income flows [1] and net unilateral transfers [1].

- (c) With reference to the data, explain how you would decide whether a government was justified in imposing anti-dumping duties on the cheap Chinese steel. [4]

If the Chinese government subsidised the production of steel and the cheap Chinese steel was sold at a price below its marginal cost of production in other countries, dumping occurred and a government was justified to impose anti-dumping duties [2]. On the other hand, if the cheap Chinese steel was due to overproduction as the growth in China's domestic demand for steel reduced (Extract 6), and the low price was not below the marginal cost of production, it was not dumping, and a government was not justified in imposing anti-dumping duties [2].

- (d) Explain the possible relationships between a country's trade deficit and its economic growth. [4]

A country with trade deficit, meaning the value of exports is lower than the value of imports, is a result of a fall in the net exports. As net exports is a component of aggregate demand, a fall in the net exports will lead to a multiplied decrease in the national income via the multiplier process, thus reducing actual economic growth. Thus, a country's trade deficit does not in itself result in negative growth. Both the trade deficit and negative growth are due to a fall in net exports [2].

On the other hand, as a country enjoys economic growth, real national income increases and purchasing power of the people rises. Consumption of the country increases which will also bring about an increase in the demand for imports. A rise in import spending, assuming export earning remains unchanged, will reduce net exports and worsen the trade balance. If the value of exports is lower than the value of imports, this will result in a trade deficit. Therefore, economic growth attained by a country may lead to a trade deficit [2].

- (e) Assess whether 'the charge by US that Japan, China and European Union are using the devaluation of their currencies to gain trade surpluses' is valid. [8]

US alleges that Japan, China and European Union (EU) are manipulating their currencies to be weaker against the US dollar and thus gain trade surpluses with the US, and it is considered a form of protectionist measure.

Countries are using devaluation of their currencies to gain trade surpluses

If the charge by US is valid, a devaluation of the currencies of Japan, China and EU will result in a reduction in prices of these countries' exports to US in US dollar. This will lead

to a more than proportionate increase in quantity demanded for exports given that the demand for exports tends to be price elastic due to the availability of many close substitutes. Value of exports will then increase. On the other hand, a devaluation of these countries' currencies will increase the prices of imports from US in the respective yen, yuan and euro. This will reduce the quantity demanded for imports more than proportionately assuming that the demand for imports is price elastic. Value of imports will decrease. An increase in the value of exports and a decrease in the value of imports will increase net exports, thus improving the trade balance and may lead to Japan, China and EU gaining trade surpluses with US.

Countries are not devaluing their currencies while gaining trade surpluses

However, these countries may not be devaluing their currencies while gaining trade surpluses. Japan is keeping a low interest rate with the aim of raising inflation rate (Extract 7). A relatively lower domestic interest rate will increase the outflow of short-term capital and reduce the inflow of short-term capital. These will increase the supply of and reduce the demand for the Japanese yen in the foreign exchange market, resulting in a depreciation of the yen. Therefore, a weaker yen is not because of any intervention in the foreign exchange market by the Japanese government to gain trade surplus with US.

As for the yuan and euro, the relative weakness against the US dollar could be due to the interest rate differentials between US and that of China and EU. As the US economy is operating near to full employment, inflationary pressures are built up as a result of the expansionary fiscal policy. US interest rates are then raised by the Federal Reserve to keep inflation at bay. On the other hand, the EU is recovering at a slower rate than that of US so the European Central Bank has kept interest rates low. Thus, the relatively higher interest rates in US attracts net inflow of short-term capital and strengthens the US dollar against the yuan and euro.

Conclusion and Evaluation

In conclusion, the charge by US is unlikely to be valid as there is a lack of evidence that Japan, China and EU are engaged in currency manipulation to gain trade surpluses. Domestic factors in US rather than the actions by other countries are more likely to be the causes of the stronger US dollar and trade deficit with other countries. The interest rate hike results in an appreciation of the US dollar against other countries' currencies instead of other countries devaluing their currencies.

While the US economy continues to enjoy economic growth and the rising national income of US increases the import spending (Extract 7), the trade surpluses of Japan, China and EU with US could also be attributed to factors such as price and non-price competitiveness of their exports, due to a relatively lower unit cost of production and better quality of products. Although an appreciation of the US dollar against the yen, yuan and euro may not improve the trade balance of US, it does not mean that the other countries have devalued their currencies to gain trade surpluses.

L2	Well-developed explanation with relevant analysis of whether the charge that countries are devaluing their currencies to gain trade surpluses is valid, supported with appropriate case study evidence.	4-6
L1	Under-developed explanation with limited economic concepts of whether the charge that countries are devaluing their currencies to gain trade surpluses is valid, with limited use of case study evidence.	1-3
E	For an evaluative judgement that reaches a conclusion based upon consideration of the analysis.	1-2

- (f) Discuss whether the imposition of tariffs is appropriate for a government when confronted with a balance of trade deficit and high unemployment. [10]

To reduce balance of trade deficit and to address high unemployment, a government may perceive that the imposition of tariffs can help to reduce the adverse impact of the problems and achieve its national objectives.

Tariff is appropriate to address balance of trade deficit and high unemployment

Local industries may be edged out by foreign producers resulting in a rise in import spending and a fall in employment and hence standard of living. For instance, the US government claims that the balance of trade deficit with China over the years is due to unfair competition (Table 3 and Extract 8). The imposition of tariffs increases the domestic price and domestic production as shown in figure 1 below. The domestic price of the good increases from OP_0 to OP_1 and this raises domestic production from OS_0 to OS_1 at the expense of imported goods, which are reduced from S_0D_0 to S_1D_1 . The increase in domestic production will bring about a rise in the demand for labour and help to reduce the high unemployment. The decrease in the quantity of imports will reduce the value of imports and also the balance of trade deficit, assuming the value of exports remains unchanged.

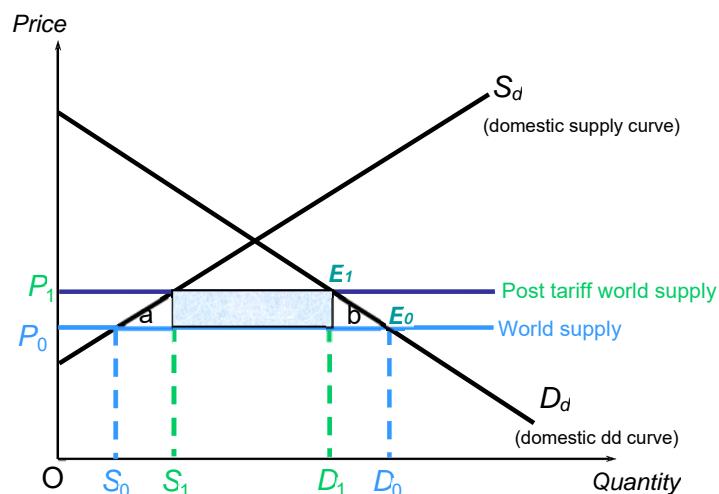


Figure 1

In addition, comparative advantage of a country tends to change over time and a country would have lost its comparative advantage in certain industries because of changes in the relative opportunity costs of production across countries. This means that there are always some declining industries. If there is perfect occupational mobility of labour, workers retrenched from the declining industries could find jobs easily in the expanding industries that have comparative advantage. However, in reality, there is imperfect occupational mobility of labour and there could be massive unemployment if an industry closes down suddenly. Hence, tariffs would allow the domestic sunset industry to decline gradually and provide time for workers to be retrained and find jobs in other industries.

Tariff is not appropriate to address balance of trade deficit and high unemployment

The imposition of tariffs does not take into consideration the loss of consumer welfare. Consumers are worse off as domestic consumption of the good falls from OD_0 to OD_1 and they have to pay a higher price of OP_1 . The loss in consumer surplus is more than the gains to both producer and the government, leading to a welfare loss to the society shown by area (a+b).

The imposition of tariffs by US on imported steel and aluminium increases the cost of production in industries such as energy, construction, automobiles and aircraft that use

steel and aluminium as a factor of production (Extract 8), thus reducing their profit margin and causing them to cut back on production. Although the imposition of tariffs aims to increase employment in the steel and aluminium industries, it will lead to rising unemployment in other downstream industries. As the industries that use steel and aluminium as factor inputs employ more workers across the US than that of steel and aluminium industries, overall unemployment rate in the US may not be reduced by the imposition of tariffs. In addition, some US firms may decide to relocate their operations to other countries where they can source for cheaper steel and aluminium, thus resulting in retrenchment of workers.

Conclusion and Evaluation

In conclusion, the imposition of tariffs is not appropriate for a government when confronted with a balance of trade deficit and high unemployment as the arguments are weak. The imposition of tariffs is at best short-term measures used to mitigate the problems of balance of trade deficit and high unemployment while other positive and long-term measures are adopted to address the problems.

The use of tariffs by a government to address domestic problems is a beggar-thy-neighbour policy that will reduce the economic growth and purchasing power of its trading partners. The country imposing tariffs tends to experience a fall in its own export earnings eventually. Moreover, tariffs on imports invite retaliation from trading partners (Extract 8) and this will lead to further fall in the value of global trade and disrupt the trade of other countries, especially small and open economy like Singapore that is highly dependent on global trade (Extract 9).

A country's trade deficit and thus unemployment problem cannot be resolved by trade restrictions like tariffs. In order to tackle the root causes of the balance of trade deficit and high unemployment, a government should adopt supply-side policies to develop new areas of comparative advantage. Training and education to raise productivity of workers and greater research and development effort to improve method of production and quality of products will enhance price and non-price competitiveness of exports. The economy has to bear some costs while it undergoes restructuring process, but it will stand to benefit in the long run. All countries have benefited from the rules-based multilateral trading system and should embrace free trade based on the theory of comparative advantage.

L2	Well-developed explanation with relevant analysis of whether imposition of tariffs is appropriate, supported with appropriate case study evidence.	5 – 7
L1	Under-developed explanation with limited economic concepts of whether imposition of tariffs is appropriate, with limited use of case study evidence.	1 – 4
E	For an evaluative judgement that reaches a conclusion based upon consideration of the analysis.	1 – 3

Prelim Answers for Paper 2

- 1 Increasing affluence and hectic lifestyles have led to an increase in demand for on-the-go beverages as well as organic and regular baked products like bread rolls and croissants. Organic baked products differ from regular baked products in that they use organic wheat, which contains lower protein content and is healthier. Meanwhile, bakeries producing organic baked products are concerned with rising prices of organic baking ingredients.

Discuss how the above events may affect the revenue earned from the sales of organic baked products, as well as the prices and quantities of products that are related to organic baked products. [25]

Level	Knowledge, Application, Understanding, and Analysis	Marks
L3	Well-developed analytical explanation of both factors in influencing the extent of change in total revenue, price and quantity respectively in at least 3 markets with accurate diagrams and application of elasticity concepts Top L3 marks (18 -20) – make reference to PED, CED, YED,PES and link to total revenue for organic baked products and price and quantity for related goods	15 – 20
L2	Descriptive answer that shows some knowledge of both factors in influencing the extent of change total revenue for organic baked products and price and quantity for related goods.	9 – 14
L1	For an answer that shows some knowledge of both factors in influencing the extent of change total revenue for organic baked products and price and quantity for related goods	1 – 8
Evaluation		
E3	For an evaluative conclusion which synthesises economic arguments to arrive at well-reasoned judgments about the extent of change in total revenue, price and quantity	4 - 5
E2	For an answer that makes some attempt at an evaluative appraisal about extent of change in total revenue, price and quantity	2 – 3
E1	For an unsupported judgment about the extent of change in total revenue, price and quantity	1

Introduction

The increasing affluence and hectic lifestyles will lead to a rise in demand of goods in the various markets like organic baked products, regular baked products and other related goods like complements i.e. on the go beverages while the rise in price of organic baking ingredients will affect the supply of factor inputs i.e. organic baking ingredients. Both the rise in demand and supply respectively will affect total revenue, price and quantity. Total revenue refers to value of goods, Price x Quantity.

Organic baked products market

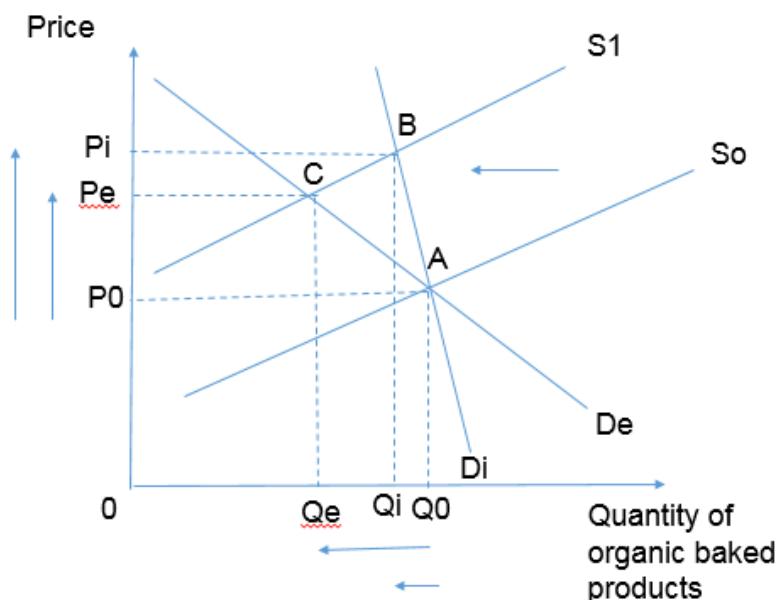
Change in supply

The rise in price of organic baking ingredients results in an increase in cost of production for firms, this leads to a fall in profit margins, firms have lesser incentive to produce and they cut back on production leading to a fall in supply of organic baking products. Supply curve shifts leftwards, leading to a rise in price and a fall in quantity. The extent of change in total revenue depends on the PED value of organic baked products.

PED

For some consumers, PED organic baked products is more than 1, as there are other substitutes to it like regular baked products and other types of snacks. In such a case, a fall in supply will lead to a less significant increase in price, P_0 to P_e and more significant fall in quantity, Q_0 to Q_e . This leads to a fall in total revenue as reflected in Figure 1, OP_0AQ_0 to OP_eCQ_e .

However, some consumers only prefer organic baked products since it is healthier. There are lesser healthy substitutes that are available in the market. A fall in supply will lead to a more significant rise in price, P_0 to P_i and a less significant fall in quantity, Q_0 to Q_i and total revenue will increase, OP_0AQ_0 to OP_iBQ_i .



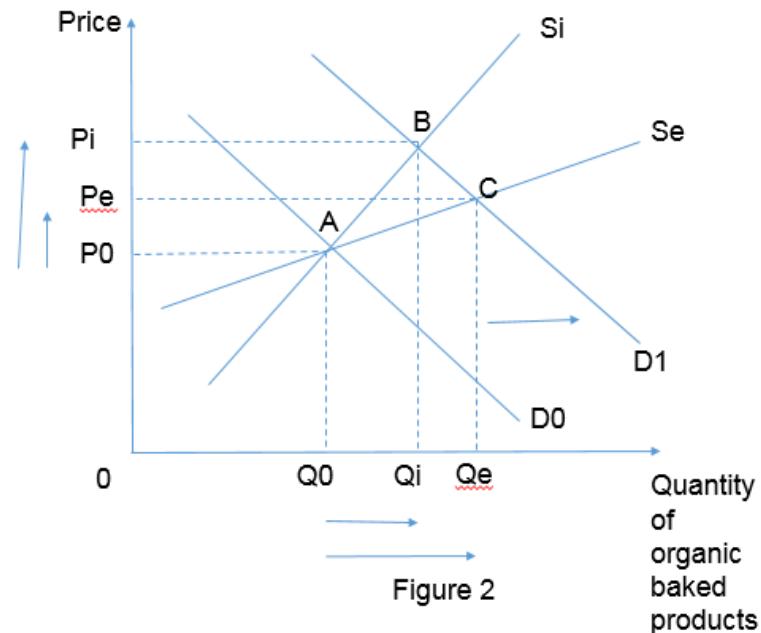
Change in demand

Rising affluence and hectic lifestyles lead to rising income and purchasing power, consumers prefer to consume food that are convenient to eat and requires no preparation this leads to an increase in demand for both types of baked products since there are normal goods. This leads to a rightward shift of demand curve that results in a rise price and quantity of organic baked products and total revenue to firms.

PES

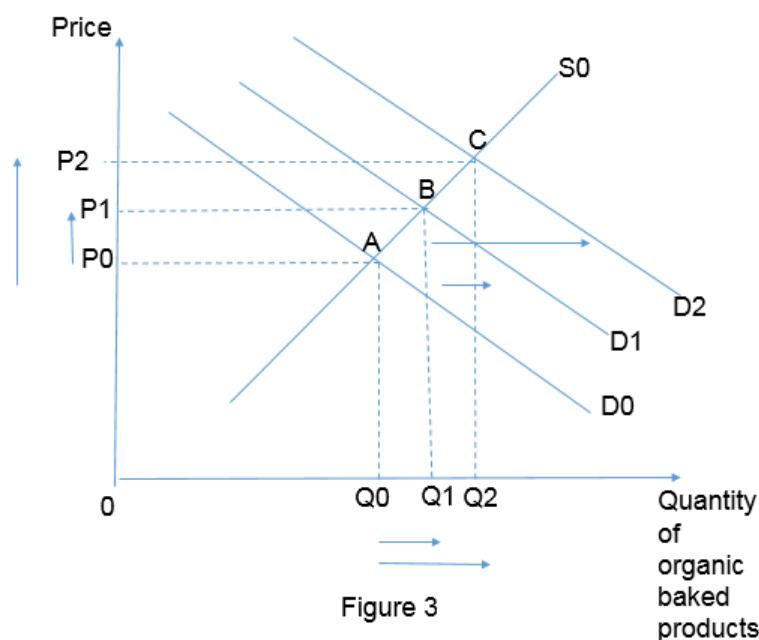
The PES for organic baked products is less than 1 while the PES for regular baked products is more than 1. This is because it takes a longer time for bakeries to source for organic baking ingredients like organic wheat since it is more difficult for farmers to produce organic wheat as it requires certification and additional steps in terms storage, handling, transport and processing, to ensure wheat remains uncontaminated and separated from regular wheat.

In the case of organic baked products, the rise in demand with an inelastic supply, leads to more a significant rise in price, P_0 to P_i and a less significant rise in quantity, Q_0 to Q_i resulting in a rise in total revenue, OP_0AQ_0 to OP_iBQ_i as reflected in Figure 2.



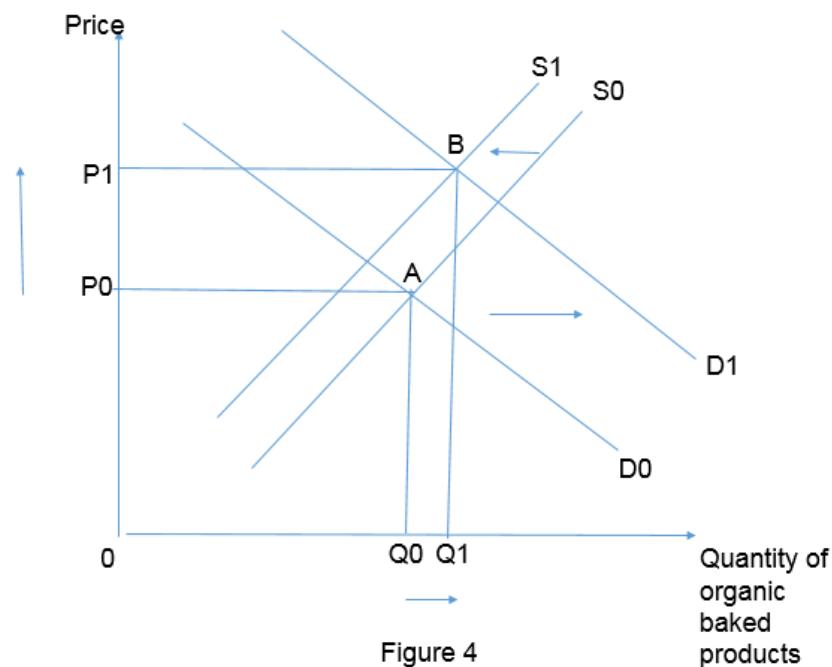
YED

The extent of rise in demand of organic baked products is dependent on whether the good is a luxury or a basic necessity. Some households may deem organic baked products as a luxury good, therefore, income elastic. In this case, demand will increase significantly therefore price, quantity and total revenue will rise more significantly, OP_0AQ_0 to OP_2CQ_2 . However, for some households, organic baked products are a basic necessity. In this case, demand will rise less significantly, therefore, price, quantity and total revenue will increase albeit less significantly, OP_0AQ_0 to OP_1BQ_1 , as reflected in Figure 3.



Simultaneous change in demand and supply

The rise in demand is likely to offset the fall in supply since the rising affluence and hectic lifestyles indicates that demand is increasing significantly given the pace of lifestyle, consumers will gravitate towards convenient food. Although the rise in prices of organic baking ingredients is a concern to bakeries, it might only take up a small proportion of total cost of production since there are other factors of production that are needed in the production of baked products like labour and machinery, therefore, the change in supply may not be significant. Overall, increase in total revenue, OP_0AQ_0 to OP_1BQ_1 as reflected in Figure 4

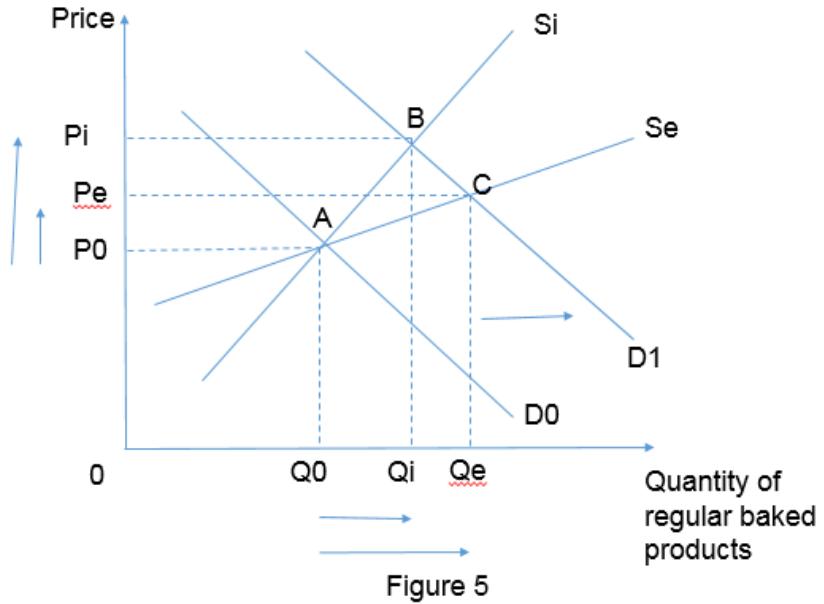


Market for substitutes: Regular baked products

Change in demand

Rising affluence and hectic lifestyles lead to rising income and purchasing power, consumers prefer to consume food that are convenient to eat and requires no preparation this leads to an increase in demand for both types of baked products since there are normal goods. This leads to a rightward shift of demand curve that results in a rise price and quantity of regular baked products. The extent of increase in price and quantity depends on whether regular baked products are $PES > 1$ or $PES < 1$.

As mentioned previously, the PES for regular baked products is more than 1 since baking ingredients is easily obtained. Firms will be able to increase quantity supplied as factors of production. In this case, the rise in demand will lead to a less significant rise in price, P_0 to P_e and a more significant rise in quantity, Q_0 to Q_e as reflected in Figure 5 below.



CED

The rise in cost of production for organic baked products leads to a fall in supply of organic baked products, this leads to an upward pressure on prices resulting in a fall in quantity demanded of organic baked products. This will then lead to a rise in demand for regular baked products since they are substitutes to organic baked products. The extent of rise in demand is however dependent on the cross elasticity of demand (CED) value. CED measures the responsiveness of the quantity demanded for a good to a change in the price of another good, *ceteris paribus*.

The CED value is high positive, this means both goods are close substitutes since both goods serve the same purpose albeit nutrients slightly differ. This leads to an even larger increase in demand for regular baked products leading to a significant rise in price and quantity. However, in some cases, regular baked products may not be a strong substitute especially for consumers simply prefer organic baked products over regular baked products, therefore the rise in demand of regular baked products may be to a smaller extent and increase in price and quantity may be small.

Market for complements- On the go beverages

A rise in price of organic baked products will lead to a fall in quantity demanded of organic baked products, since on the go beverages and organic products are strong complements, the CED value will be high negative. This will lead to a significant fall in demand for on the go beverages resulting a fall in price and quantity of on the go beverages.

However, the extent of decrease in demand for on the go beverages may be mitigated by increase in demand for regular baked products which are also close complements of on the go beverages. Therefore, there may not be a significant change in price and quantity of on the go beverages as whole.

YED

Furthermore, the rising affluence will also lead to a rise in demand for on the go beverages since it is a normal good. The extent of rise in demand depends on whether on the go beverages are perceived as basic necessity or luxury. The increase in demand will be more significant if it is perceived as a luxury leading to a significant rise in price and quantity compared to if it was a basic necessity.

Overall, there is a net increase in demand for on the go beverages due to the rising in income further supported with the rise in demand of regular baked products. This leads to a rise in price and quantity of on the go beverages.

Related markets – Factor inputs for organic baked products

The rise in demand for organic baked products will lead to a rise in derived demand of factor inputs like organic baking ingredients organic baking flour. This will lead to a further increase in price of these ingredients and increase in equilibrium quantity.

The increase in price and quantity is dependent on the PES value of these ingredients. In the short run, PES may be less than 1 since it takes time to produce these factor inputs, therefore, price increase may be significant in the short run compared to the long run while rise in quantity may be less significant in the short run compared to the long run.

Evaluative Conclusion

The extent of change in total revenue, price and quantity in the respective markets depends on assumptions made that includes only a change in income and cost of production and perceived elasticity values of demand and supply. In the market for organic baked products, it is likely that total revenue increases since an increase in demand will definitely lead to a rise in total revenue regardless of the PES value. In the markets of related goods like regular baked products, on the go beverages and factor input, it is likely that a rise in price and quantity will be observed given the increase in income and the rise in price of organic baked products.

Ceteris paribus assumption

However, the change in income and cost production would not be the only factor affecting the total revenue for that particular good. The above analysis made use of the ceteris paribus assumption, i.e. that no other factors affected the demand or supply of those goods.

In reality, there could have been other reasons that may lead to a change in tastes and preferences in favour of organic baked products over regular baked products due to the nutritional benefits. Thus, the increase in demand for organic baked products will increase more significantly compared to regular baked products when rising income is coupled with rising preference.

Usefulness of elasticity concepts

In addition, the above analysis on the impact on total revenue, price and quantity was contingent on having accurate PED and CED values. However, in reality, such values are difficult to estimate due to difficulties with measurement, which would lead to different changes in total revenue.

- 2 Grab has taken over Uber's operations in Southeast Asia. Upon investigation, the Competition and Consumer Commission of Singapore has decided that the Grab-Uber merger would make the private hire car market less competitive and hurt consumers. As a result, it has proposed financial penalties on Grab and Uber.
- (a) Explain the benefits and costs of the merger to Grab. [10]
- (b) Discuss the economic justifications for the intervention by the Competition and Consumer Commission of Singapore (CCCS) to protect consumers when firms decide to merge. [15]

Part a

Level	Descriptors	Marks
L3	Developed explanation of the benefits and costs of the merger for Grab. Examples are needed for top marks answers.	8 - 10
L2	Under-developed explanation of the benefits and costs of the merger for Grab.	5 - 7
L1	Descriptive knowledge of the benefits and costs of the merger for Grab.	1 - 4

Part b

Level	Descriptors	Marks
L3	A balanced and well-developed discussion of the economic justifications for the Competition and Consumer Commission of Singapore to intervene in mergers.	8 – 10
L2	An under-developed explanation of the economic justifications for the Competition and Consumer Commission of Singapore to intervene in mergers. Max 6m for a one sided answers.	5 – 7
L1	For an answer that shows a descriptive knowledge.	1 – 4
Evaluation		
E3	For a well-reasoned judgement based on economic analysis.	4 – 5
E2	For an attempt at judgement.	2 – 3
E1	For an unexplained judgement.	1

Part a.

Introduction

A *merger* is an agreement that unites two existing companies into one. There are several reasons why firms would want to *merge*. This is usually done for a firm to acquire more market share and eliminate competition. This will benefit the firms in terms of revenue and cost and thus fulfil their aim to maximise profits. The merger would also enable Grab to be better able to deal with any threat of new entrants or competition in the market.

Body

The merger will allow Grab to gain more market share and this has various benefits.

Firstly, Grab will now have access to customers who were previously with Uber. This will translate to higher demand for Grab's private hire car services and cause her revenue to rise. On top of that, the demand for Grab will become more price inelastic now as they will gain more market power that come with the higher market share. Grab will now be able to have more control over the price of their services and can increase the price to increase total revenue. As the rise in price bring about a less than proportionate fall in quantity demanded due to lack of substitutes, the revenue gained from the price increase will be more than the revenue lost from the fall in quantity demanded, causing revenue to now increase. Assuming that the rise in revenue can offset the cost of the merger, Grab will experience a rise in their total profit.

Being a larger firm now, Grab will also be able to produce at a larger scale and reap the benefits of economies of scale. Internal Economies of Scale (EOS) refers to cost savings arising from the benefits of increasing the output by expanding the firm's scale of production (size of firm). Internal EOS enables the firm to spread its cost over a larger output, hence lowering its long run average cost. Grab could better enjoy technical economies as she is now able to spread the high cost of the latest technology and sophisticated systems over a larger output and reduce the LRAC. For example, Grab is partnering NUS to launch an artificial intelligence (AI) laboratory here aimed at finding ways to alleviate traffic congestion and other urban transportation issues. This is now possible as the high cost of using the AI can be spread over a larger output.

Grab can enjoy marketing economies as she can now buy in a larger quantity now. For example, she can now buy the vehicles in a larger quantities and ask for more discount. This will help Grab to lower her average cost of production and earn more profits.

In addition to that, Grab is also able to gain risk-bearing economies as she can now practice diversification to spread their risk over a larger variety of services. Grab is also able to introduce new services such as Grabfood (food delivery service), Grabfresh (grocery delivery service) or even providing shuttle services from MRT stations to various army camps around the island.

The cost of borrowing is also generally lower for large firm than for smaller firm. Larger firms are often able to get bank loans at lower rates of interest and with better conditions due to their credit-worthiness. Furthermore, large firms can also list their companies in the stock exchange to get funding and expand their issue of shares when more funds are needed. This is known as financial economies.

Large firms also tend to be more established and have the resources and capability to compete in the international arena. This mean that consumers will now feel more confident in the branding of Grab and will use it more often. Grab will also be able to use Singapore as its base of operation and spread out to other markets oversea and earn more revenue. On top of

that, it would be easier for Grab to attract international talents to work for them. They are also likely to have more funds for research and development and come up with better products and helps to increase the demand for their products will increase their total revenue.

While Grab could benefit from takeover, there is a possibility that the takeover could lead to higher average cost. Grab could grow too big beyond the minimum efficient scale(MES). It is the point where the LRAC curve is at its minimum or the output where the LRAC first starts to flatten off. Beyond the MES, there are no more economies of scale. Efficiency declines and diseconomies of scale occur. This means the average cost of production will now increase with the higher output levels. This is mainly due to Managerial Diseconomies of scale. For example, as the size of the firm increases, it becomes increasingly difficult to carry out the management functions of coordination, control, communication and the maintenance of morale in the labour force. Delegation to subordinates and decentralisation may give rise to problems of coordination and control. For example, Grab may find it more difficult to communicate with their many private hire care drivers on the road and certain vital information may not get passed on. There may also be a breakdown in communication and industrial relations as firms expand. Low morale and a feeling of alienation may lower productivity on the shop floor, thereby raising average cost of production.

Large organisations are subdivided into many specialised departments and may become bureaucratic. This complexity means a large firm may not be able to adjust quickly to the changing market conditions due to the slow decision making process. This is especially true in the current world where the global economic environment is become increasingly more volatile. People's taste or preference also changes more rapidly with the changes in technology due to the more frequent occurrence of disruptive technology. Being a large firm will mean that Grab would be unable to make changes to their business to adapt to the situation quickly. Failure to adopt new and more efficient methods of production will incur higher cost for Grab while the failure to make changes to their business to adapt to changing consumers' taste or preferences will affect their revenue as demand for their services fall. Too much diversification may not be beneficial for Grab as they might be venturing unfamiliar product market and this unfamiliarity may affect their ability to operate their business and be uncompetitive in the market. Hence, their total revenue will be affected.

There is also a risk that the firm might face additional regulations in the future. Also, as the firm expands, the firm might find itself needing to comply with new rules that did not apply to it before when it was smaller. For eg, a new data protection rule requires you to beef up your website's security. They may also be fined if they are found to cause unfair competition in the market.

Conclusion

Being bigger will definitely bring about many benefits but they are usually subject to government approval. Hence, even if it is overall beneficial to firms, a merger may not happen if the government deem it to be overall detrimental to the society. Grab also has to be aware of the possible costs of being too big and ensure that they do not become too big too fast.

Part b.

Introduction

Competition and Consumer Commission of Singapore (CCCS) is Singapore's competition authority. It is a statutory board under the Ministry of Trade and Industry and is tasked to administer and enforce the Competition Act. CCCS intervene in such cases to prevent any firms from becoming too big and become a monopoly so as to protect the interest of the consumers.

Body

Why Intervention by CCCS is needed in cases of a merger

Less contestability due to merger

Mainly, CCCS have to intervene to ensure that the contestability of the market is not compromised by the merger. Without the threat of potential entrant, the merged firm may not have any incentive to operate at the competitive price and output level (earning only normal profits) and produce as efficiently as possible. For example, after the Grab/Uber merger, they will own a large number of full-time drivers who have previously signed on to them and these drivers will not be able to work for other similar private car hire service firms. This was not the case before the merger as these drivers were allowed to take on jobs from other private car hire service firms. In addition, Grab and Uber were the 2 firms that most consumers are most familiar with. With their merger, it will be extremely difficult for potential entrant such as Go-Jek to enter the market.

Higher price and lower output + allocative inefficiency

As firms merge and gain monopoly status, it is often feared that they will produce at a lower output and charge a higher price and hurt consumer welfare. The merged firms are able to do so due to its high monopoly power which gives rise to a demand curve which is downwards sloping and relatively price inelastic, and allowing the firm to have the ability to set either price or quantity. With reference to figure 1, since its demand curve, which is also the average revenue curve, is downwards sloping, its marginal revenue (MR) is less than its average revenue and hence it has a separate MR curve below its AR curve. Assuming that the aim of the monopolist is to profit maximise, it will choose to produce at the profit maximising output where $MC = MR$ and where MC cuts MR from below, and the price is charged based on the AR curve. Since the MR curve is below the AR curve, the upward sloping portion of the MC curve will cut the MR curve first before cutting the AR curve. This leads to a higher price of P_0 and a lower output of Q_m . Hence, intervention by CCCS is needed to protect the welfare of the consumers. For example, after the merger of Grab/Uber, consumers receive lesser discount promo codes and have to pay a higher price for private hire car services. In addition, the lesser number of firms in the market will mean a fall in choices for consumers.

Furthermore, allocative efficiency cannot be achieved. Allocative efficiency (AE) is achieved when society produces the right type and right amount of goods required by consumers. This occurs when the firm produces where Price (P) = Marginal Cost (MC), implying that society's valuation of the last unit of the good is equal to the opportunity cost of producing that last unit. When it occurs, society's welfare is at the maximum and cannot be increased further. As seen in figure 1, P_m always exceeds its MC and the market will fail to achieve allocative efficiency. While it is true that allocative efficiency cannot be achieved realistically, the more price inelastic demand curve of the merged firm will result in a greater extent of allocative inefficiency compared to before.

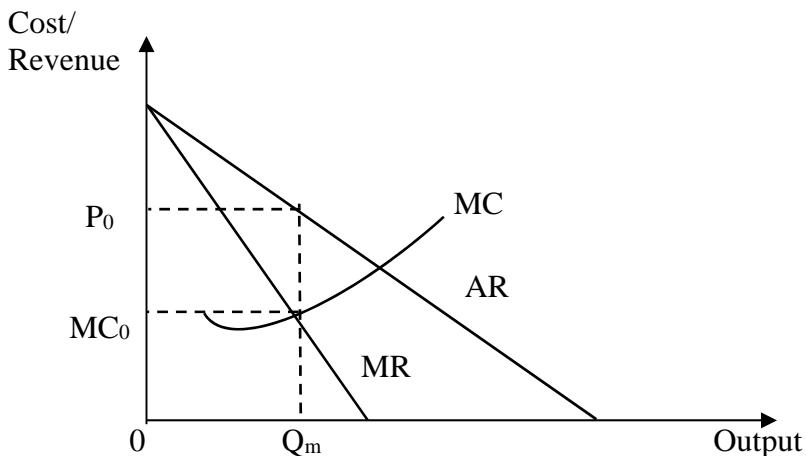


Figure 1: A Monopoly firm in long-run equilibrium

After the merger, at equilibrium in the long run, the monopoly can make normal or supernormal profits. Its price, P_m always exceed its MC , as seen in Figure 1. Consumers are prepared to buy additional units for a price that is higher than the cost of producing these units. Hence the monopolist is seen to be under-producing thus resulting in a loss of social welfare. Society will be better off by shifting extra resources into production of this good.

X-inefficiency

There is also a worry that after the merger, firms may become complacent as they can still earn supernormal profit in the long run and the newly merged firm may not achieve productive efficiency. Subsequently, if they pass on the increased cost to the consumers in the form of higher prices and hence affect the interest of the consumers. This is made worse if the good is a necessity like the private hire car service which is a form of transportation for people without cars. Hence, there is need for CCCS to intervene when firms want to merge.

Lack of innovation

If the merger brings about a lack of competition in the market, the merged firm may lack the incentive to conduct R&D and innovate. In addition, as a monopolist is able to make supernormal profits both in the short run and in the long run, it may see no need to innovate its processes in order to reduce costs. Hence, consumers will not be able to enjoy new products over time and may have to pay a high price for them. Thus, CCCS have to intervene in case of a merger.

Why Intervention by CCCS is not needed in cases of a merger

Market may still remain contestable

With the rise of disruptive technology, traditional barriers of entry are constantly being "bypassed" and this threat will force dominant firms in the market, even a monopoly to stay competitive in terms of both the pricing and quality. For example, the taxi industry in Singapore used to be dominated by a few large firms which are protected by high barriers to entry such as the large number of vehicles needed and also government licensing. However, through resource sharing app made possible by the rise of the smart phone technology, private hire cars companies like Grab and Uber are able to enter the market and threaten the market share and revenue of the traditional taxi companies. Similarly, the Grab/Uber merger may not have affected the contestability in the market as new entrants such as Jugnoo will still be able to enter the market and compete. Other firms that provide similar product (substitutes) such as BlueSg (Electric car rental service) will also provide more competition to the merged firm and threaten their existence.

Lower price and higher output

In addition, there are instances where a monopoly charges a lower price and produces at a higher output. This is because there are extensive internal economies of scale to be enjoyed by a monopoly firm that dominates the market and expands its own scale of production. In this case, the unit cost of production may fall when the industry is a monopoly. This means that its MC, could now become lower. If the cost falls substantially, the equilibrium output can be higher and price is lower compared to before the merger where the firms are smaller and is unable to reap as much internal economies of scale. Hence, there may not be a need for CCCS to intervene and stop any merger by firms.

Natural monopoly

In some other cases where the market size is small relative to the minimum efficient of scale, the market may not be able to support more than 1 firm and can be considered as a natural monopoly. A natural monopoly occurs in an industry when only one firm can exist profitably in the entire market as its average cost (AC) declines over the entire demand curve and it enjoys substantial internal economies of scales (EOS). In this industry, there is substantial amount of capital i.e. high fixed cost is required to produce a product or service and its long run average cost curve falls continuously as output expands. The huge capital requirement also means that total fixed costs make up a very large part of the total cost.

Hence, in such cases, when the firms merge, it may be for their survival and they have no other way out. In the case of the Grab/Uber merger, it can happen because the 2 firms may have realised that the small Singapore market is not able to sustain both of them and that is why they have decided to merge instead of continuing to compete. If they have not merged, it's possible that both firms could earn subnormal profits in the long run and exit the industry. CCCS would have no need to intervene in such cases as the product will not be provided otherwise and consumer will lose access to it.

Productive efficiency

The argument that large firm may become complacent and not achieve productive efficiency may not be entirely true. As most firms have the aim to maximise profits. Hence, this will motivate them produce at the lowest possible average cost of production in the long run regardless of whether they are big or small firms and be productive efficient.

Less wasteful competition

A more competitive market may also bring about higher cost of production as firms engage in non-pricing competitions such as advertising campaigns. Such advertising campaigns are usually persuasive in nature and does not add value to consumers' welfare. This will also in turn results in resources being wasted, instead of being channelled to other more productive areas such as improving product quality. For example, in the food delivery service market, one can see Foodpanda frequently do advertisements on television on how good their service is. But in reality, there is no difference in the quality of its service from its competitors. Hence, there may not be a need for CCCS to intervene and stop any merger by firms.

Dynamic efficiency can still be achieved

This argument that dynamic efficiency will be compromised as firm get larger may not be totally true according to Schumpeter's Theory of Creative Destruction, the fact that a monopolist makes supernormal profits in the long run creates an incentive for the firm to risk their money to finance innovations and to invest in R&D. For potential entrants, the supernormal profits earned by the monopolist will entice them to break into the market so as to enjoy attractive profits themselves. In order to break into the monopoly, potential entrants have to innovate and produce new and differentiated products, improve on quality or lower costs of production. Schumpeter calls the replacement of one monopoly by another, through the invention of new products or new production techniques, the process of creative destruction. An example would be Nokia which did not innovate after gaining near monopoly status in the mobile phone

market and got obsolete after the invention of the smartphone by Apple. We begin to then see many innovations constantly carried out by the different mobile phone makers in order to stay competitive and capture more market share. Even a strong firm like Apple got replaced by Huawei recently as the world no 2 largest smartphone seller.

For the firm itself, in order to maintain its monopoly position by maintaining the high barriers to entry, the monopoly would also continually strive to improve and innovate. In addition, since the firm is able to continue making supernormal profits in the long run, there is also an incentive to come up with new products in order to make more profits. An example will be the patents that are awarded for a drug development that encourages the firm to carry out further R&D because the revenue from the sale of the drugs is more secure. Lastly, since a monopolist makes supernormal profits in the short run and long run, it also has the necessary funds to do R&D. Thus, there may not be a need for CCCS to intervene in such cases.

Conclusion

In most cases, CCCS would be right to intervene and prevent firms from being too big in the market so as to protect the interest of the consumers. This is because there is no guarantee that the firms will pass on the benefits to the consumers. The most important factor to consider is whether there is still a high level of contestability in the market after the merger in both the short term and long term. If there still is, consumers need not worry about their welfare being compromised and at the same time, enjoy the benefits brought about by the large firm. Regulations have to be in place to prevent exploitation of the consumers by firms.

Possible evaluation 1

Due to the nature of the product, there are cases where it is actually beneficial to the consumers if the firms are big. One such market is the smartphone market where innovation is a key factor to be considered and hence the firms still will conduct R&D even though it is oligopolistic in nature. In some cases, government may want the firm to become bigger in order to protect domestic firms who are usually smaller against foreign entrants or may want the domestic firms to venture out internationally. In such cases, they may not want to intervene in the merger or may even sanction it to take place.

Possible evaluation 2

It may not be so easy for CCCS to make a decision on whether to clear the firm for merger or not due to lack of information sometimes in the real world. There may also be a lack of similar cases that took place for reference by CCCS. This is especially so for the world today where disruptive technology is happening on a more frequent basis. Hence, CCCS would have to consult relevant experts in order for them to be able to make a more informed decision in such a situation.

- 3 There is considerable debate over the need for government to continue to provide cash grants to consumers and intervene in markets which fail.
- (a) Using examples, explain why inequity and the existence of positive externalities will lead to market failure. [10]
- (b) Discuss whether government providing cash grants to consumers is the best way to correct for both these types of market failure in Singapore. [15]

Part a

Level	Knowledge, Application, Understanding, and Analysis	Marks
L3	Well-developed explanations of how market failure arises due to income inequity and the existence of positive externalities. Good use of relevant examples of different goods to illustrate explanations.	8 – 10
L2	Descriptive explanation of how market failure arises due to income inequity and the existence of positive externalities. Answer uses relevant examples. Max 7m if there is no explanation with reference to examples.	5 – 7
L1	For an answer that shows descriptive knowledge of how market failure arises due to income inequity and the existence of positive externalities.	1 – 4

Part b

Level	Knowledge, Application, Understanding and Analysis	Marks
L3	For a well-developed explanation on how government providing cash grants to consumers is the best way to correct these types of market failure. Well-developed explanation on alternative policies that government can use to correct these types of market failure.	8 – 10
L2	For a descriptive explanation on how government providing cash grants to consumers is the best way to correct these types of market failure. Answer merely states the alternative policies that government can use to correct these types of market failure. Max 5m if student only explain cash grants.	5 – 7
L1	For an answer that shows a descriptive knowledge on how government providing cash grants to consumers is the best way to correct these types of market failure.	1 – 4
Level	Evaluation	
E3	For an evaluative conclusion which synthesises economic arguments to arrive at well-reasoned judgment about whether cash grants to consumers is the best way to correct these types of market failure.	
E2	For an answer that makes some attempt at an evaluative appraisal about cash grants to consumers is the best way to correct these types of market failure	
E1	For an unsupported judgment about cash grants to consumers is the best way to correct these types of market failure	

Part a

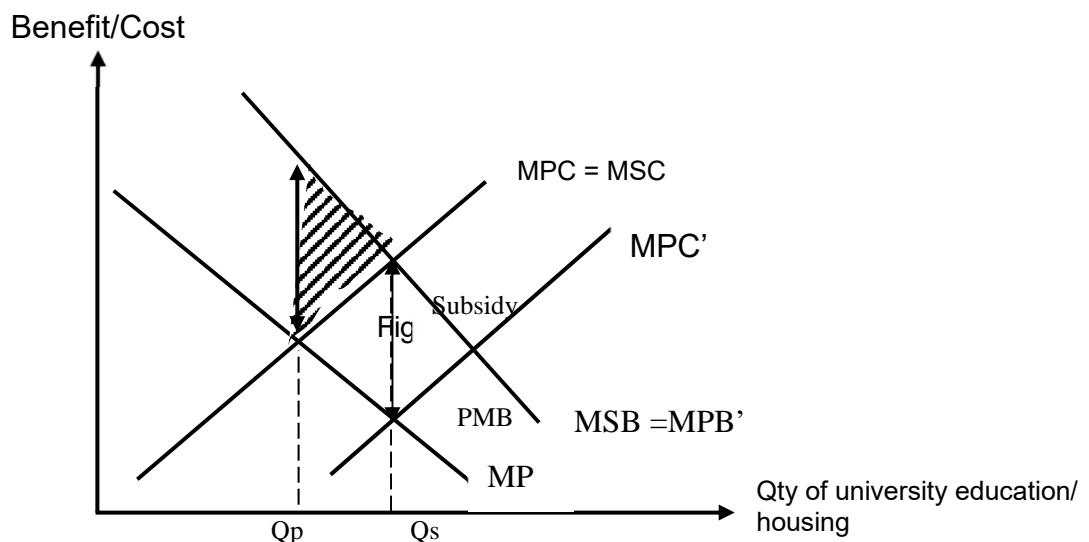
Introduction

Market failure occurs when the free operation of the price mechanism fails to allocate resources efficiently. An efficient allocation of resources occurs when no one can be better off without someone being worse off. It is achieved when marginal social benefit (MSB) is equal to marginal social cost (MSC) or when price is equal to marginal cost. Hence both inequity and existence of positive externality may lead to an undesirable allocation of resources.

Under-consumption of university education due to the presence of positive externalities

One example of a good with positive externality will be the consumption of university education.

The marginal **private benefits** of university education to consumers include making themselves more productive and adaptable to changes allowing to earn higher wage when consuming an additional unit of university education. The **marginal private cost (MPC)** would be the university course fee incurred when consuming an extra unit of university education. University education also gives rise to **external benefits** which includes enhancing the productivity level of the workforce thereby contributing to higher growth for the economy. This can lead to an overall increase in standard of living for all individuals.



As shown in Figure 1, the presence of external benefits leads to the divergence between social benefits and private benefits, so marginal social benefit (MSB) is higher than marginal private benefit (MPB) for each unit of output. Assuming that there are no negative externalities, the marginal private cost (MPC) is equal to marginal social cost (MSC).

Utility-maximising consumers only consider their private costs and private benefits, ignoring the external benefits spilled over to the third-parties. Left to the free market, individuals will consume at OQ_p level where $MPB=MPC$. However, the socially optimal level of consumption should be at OQ_s where $MSB=MSC$. Since Q_p is less than Q_s , there is under-consumption of university education. This is because the marginal social benefit of an additional unit of university education consumed is higher than its marginal social cost, it will result in a welfare loss as shown by the shaded area (seen in Figure 1). It is thus in the society's interest to

continue consuming an additional unit of university education till Q_s . Hence governments intervene in the market for university education to achieve an efficient allocation of resources.

Under-consumption of housing due to the presence of inequity

Undesirable allocation of resources also occurs due to inequity as it may lead to an unfair allocation of resources. One example of such market would be the housing market.

Under the free market, the price mechanism performs two roles – allocate resources according to consumer sovereignty as well as allocate goods according to the ability and willingness to pay for them. Consumers are able to command the resources via their dollar vote. By signaling to the producers what they want or do not want through their effective demand, the resources will be diverted away from or towards the production of the goods. The free market hence lacks the ability to differentiate between needs and wants – it finds no incentive to cater to the needs of those who are not able to pay for the good even if they need them the most which may lead to an unfair allocation of resources.

In the housing market, consumers from the low income households will have less dollar votes as compared to consumers from high income households. As a result, private producers will only build houses cater to the consumers from higher income households with higher dollar votes and do not build houses for consumers from the lower income households. This will result in resources to be diverted away from the low income households to the high income households in the housing market. Thus resulting in the housing needs of the low income households not to be met.

Hence, even if resources can be allocated efficiently to the production of goods and services based on the “dollar” votes but they do not flow to those who need them the most, resulting in market failure as the poor do not have access to the good which is a necessity.

Part b)

Introduction

In view of the causes of market failure due to positive externalities and income inequity, various policies are used by the government to encourage the production and consumption of the good so that the socially optimal level of output is achieved. Similarly to the case of university education, housing market also tends to fail due to positive externalities such that there is an external benefit of promotion social cohesion within the country. Hence, in part b, policies that can be used by the government will be explained in the housing market context.

Policy 1: Cash grants to consumers to solve positive externality

In the case of Singapore housing market, the government provides CPF housing grants for consumers whom are purchasing public housing for the first time. The policy acts as a form of cash grants to the individuals whereby the amount should be equal to the MEB at Q_s level of output. The amount of cash grants given should be equal to MEB at Q_s level of output. Such cash grants will shift MPB to the right to coincide with MSB, increasing the output level of public housing consumption from Q_p to Q_s level of output.

Further cash grants to consumers to solve income inequity

The government also further provides means-tested cash grants to Citizens and Permanent Residents household in the form of additional CPF housing grants. Households that are earning less than \$5000 and below will be eligible to receive a higher amount of cash grants. This means that the government also provides significant support to the lower –and – middle

income households who are not able to afford the payment. This thus helps to improve equity in the public housing market where it enables the low income households to be able to afford public housing.

Limitations:

It is difficult for government to estimate the amount of cash grant to give as it is difficult to measure MEB accurately in monetary terms due to tangible and intangible benefits, such as the increase in social cohesion. If the government underestimates or overestimates the external benefits, resource allocation is still inefficient. Cash grants also incur an opportunity cost as government funds used here will result in projects elsewhere in the economy, such as defence, being forgone.

Even if further cash grants were provided by the government, the amount may be still too low for certain groups of consumers. This is especially so in the case of public housing or university education which requires a large amount of money and also a loan from the banks. Hence it may not be sufficient to solve the inequity problem and government may need to also readjust the amount of cash grants given.

Government will also have difficulties in setting the eligibility criteria for the means-testing cash grants and have to ensure that it is inclusive. If the criteria remains too stringent and strict, the policy will still miss out groups of households which have difficulties affording the good without the help from the government.

Policy 2: Subsidies to Producers

Government can also choose to subsidise the producers. For example, in the case of university education for Singapore, the government can provide subsidies to the universities themselves as well. The amount of subsidies given should be equal to the MEB at Q_s level of output. The subsidies lower the cost of providing university education and in turn universities pass on the cost savings which lower the price to consumers. This will result in the fall of MPC from MPC to MPC', increasing consumption of the good from Q_p to Q_s level of output as seen in Figure 1. This results in the government achieving an efficient allocation in the market. This will also ensure greater equity as it helps the poor to have access to such goods as it becomes cheaper and more affordable.

Limitation:

However if government were to subsidise producers, producers may become complacent. Direct provision may also be costly in the long run and may create a strain on the governments' budget. Government may also not be able to accurately estimate the demand of the good required and may thus lead to an over-supply.

In addition, providing subsidise to producers across the board may not be able to differentiate those who really need the help from the government and will not be a good way to target income inequity. This is because producers will tend to lower the price for all the consumers regardless of their income level unlike the cash grants which target on specific households. Hence a more targeted approach that focuses on helping the lower income households may be a more useful way when government is facing a budget deficit.

Policy 3: Public education

Another policy to solve the market failure is public education where the government can run campaigns and programmes to enhance the awareness of consumers about the external benefits of consuming certain goods. For example, the promotion of wellness programme to

encourage Community Health Screenings in Singapore. Such campaigns not only make consumers more aware of the benefits of consuming such healthcare but also the benefits gained by family members and society when they detect illness early. MPB will increase thus shifting the MPB curve to the MSB curve. The problem of under consumption will be eliminated as this will help to increase the consumption level from Q_p to the socially optimal level at Q_s .

Limitation:

However, this is a long term policy as results might only be seen after a considerable period of time. The effectiveness depends on the recipients' response to these messages. It is difficult to change the mind-sets and habits of consumers. More importantly, it does not lower the price of the good and hence does not target on income inequity.

Conclusion

In the short run, cash grants to consumers is one of the better policies to correct the market failure as it is relatively easier to implement and there is flexibility to vary the subsidise amount depending on the situation. More importantly, it can help to target on both positive externalities and income inequity.

However, there a need to relook at the amount of cash grants provided. For example, cash grants that is available for the general public and is not subjected to income eligibility criteria can be reduced slightly and complement with public education to educate the public about the external benefits. On the other hand, cash grants catered to the lower-income households should continue in order to prevent income inequity from worsening.

The government should also be aware of the escalating cost of providing the goods in the future in the face of increasing price of raw materials and labour required. Hence the government can also tap on advanced technology to increase productivity to mitigate rising prices. This will aid in making the product affordable.

Even though, government may choose to intervene using various methods as each has its own merits and limitations. However, as much as government intervention can help to achieve efficient allocation of resources, its' effectiveness is hampered if there is government failure. Red-tape, bureaucracy and high cost of intervention may limit the effectiveness of the policies. Nonetheless, although government intervention will not be able to achieve an efficient allocation of resources, it will definitely help improve the current allocation of resources.

4 Japan's debt-to-GDP ratio, at 240.3%, is the highest among developed countries, the result of growing year-on-year fiscal deficits since the early 1990s. However, fixing the budget has taken a backseat as Japan continues to struggle with deflation and a rapidly ageing population.

- (a) Using production possibility curves and AD/AS analysis, explain how Japan's ageing population would affect its economy. [10]
- (b) Discuss whether the Japanese government should be more concerned with deflation or its growing fiscal deficit in light of its ageing population. [15]

Marking Scheme Part (a)

Level	Knowledge, Application, Understanding, and Analysis	Marks
L3	Well-developed analytical explanation of how Japan's ageing population would impact its economy differently using both PPC and AD/AS analysis.	8 – 10
L2	Descriptive explanation of how Japan's ageing population would affect its economy using PPC and/or AD/AS analysis.	5 – 7
L1	For an answer that shows descriptive knowledge of how Japan's ageing population would impact its economy.	1 – 4

Marking Scheme Part (b)

Level	Knowledge, Application, Understanding and Analysis	Marks
L3	Well-developed explanation of the reasons why the Japanese government should be concerned with both deflation as well as its growing fiscal deficit, taking into account Japan's context of its ageing population.	8 – 10
L2	Descriptive explanation of the reasons why the Japanese government should be concerned with both deflation as well as its growing fiscal deficit. Some attempt is made to consider Japan's context of its ageing population.	5 – 7
L1	For an answer that shows descriptive knowledge of the reasons why the Japanese government should be concerned with deflation and/or its growing fiscal deficit.	1 – 4
Level	Evaluation	Marks
E3	For an evaluative conclusion that weighs and comes to a judgment about whether the Japanese government should be more concerned with deflation or its growing fiscal deficit.	4 – 5
E2	For an answer that makes some attempt to weigh whether the Japanese government should be more concerned with deflation or its growing fiscal deficit.	2 – 3
E1	For an unsupported judgment about whether the Japanese government should be more concerned with deflation or its growing fiscal deficit.	1

Part (a)

Declining workforce

- With an ageing population, the number of workers leaving the workforce increases faster than the number of new workers entering the workforce. This results in a shrinking workforce, leading to a fall in quantity of labour.
- In addition, the proportion of older workers in the workforce would increase. As older workers are less receptive to adapting to technological changes in the workplace, their skills may become outdated over time if they do not pursue further education and skills upgrading. Thus, the overall productivity of the workforce, which is widely measured by output or GDP per hour worked (OECD), would fall. This means that the quality of labour on the whole would have fallen.
- Given the fall in quantity and quality of labour, which is an important factor input in production, there would be a fall in Japan's productive capacity.
- Furthermore, as productivity of the workforce falls and as the economy slows down due to the ageing population, Japan becomes a less attractive destination for foreign direct investment (FDI), causing I to fall and resulting in a worsening of the capital and financial account.
- This could be reflected as an inwards shift of the PPC from PPC_0 to PPC_1 , as shown in Figure 1(a) below. It could also be depicted by a fall in the AS curve in the long run, as shown in Figure 1(b).
- As a result, national income would fall, i.e. there would be negative potential growth.

Capital goods

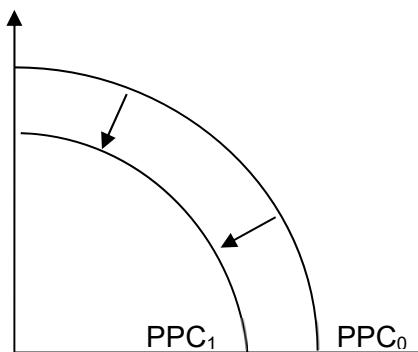


Figure 1(a)

GPL

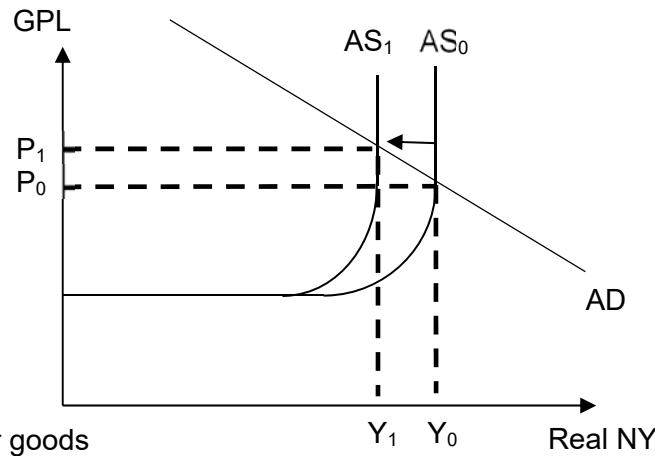


Figure 1(b)

Plummeting household savings and falling consumption

- As more workers leave the workforce, there would be a fall in household savings (S) as those who have retired no longer earn an income and will have to rely on their savings to fund their spending. The fall in income would also mean that purchasing power falls, leading to a fall in consumption (C).
- As people age and move into retirement, they will draw down on their saving. This would mean that there are less domestic loanable funds available for firms. Due to higher demand for loanable funds, higher interest rates would be charged on loans, causing private investment expenditure (I) to fall.
- Firstly, the fall in C and I would lead to a fall in AD leading to a fall in real NY via the multiplier effect, resulting in negative actual growth. As AD falls, firms would decrease production, thereby lowering their demand for labour, giving rise to rising cyclical unemployment. The fall in AD would result in a fall in GPL, leading to deflation.

- This could be illustrated by a movement from a point closer to the PPC to a point further inwards, i.e. the production point moves inwards, as shown in Figure 2(a) below.
- It could also be illustrated by a leftward shift of the AD curve from AD_0 to AD_1 , as shown in Figure 2(b) below.
- Given that the elderly save a smaller proportion of their income as compared to the younger, there would be a lower marginal propensity to save (mps), leading to higher multiplier k size. Thus, the fall in C and I would lead to a larger fall in Japan's NY
- Furthermore, as I falls, there would be a fall in capital stock assuming the rate of depreciation remains constant, leading to a fall in productive capacity. There would be an inward shift of the PPC and a fall in AS in the long run as illustrated by Figures 1(a) and 1(b) respectively, leading to a fall in potential growth.

Electronic products

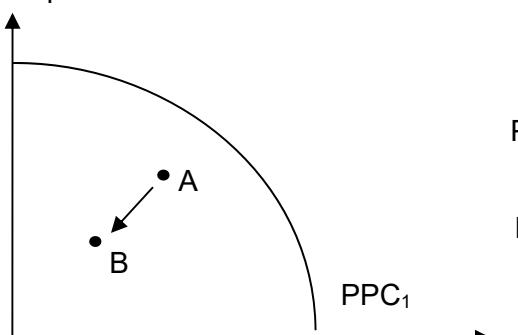


Figure 2(a)

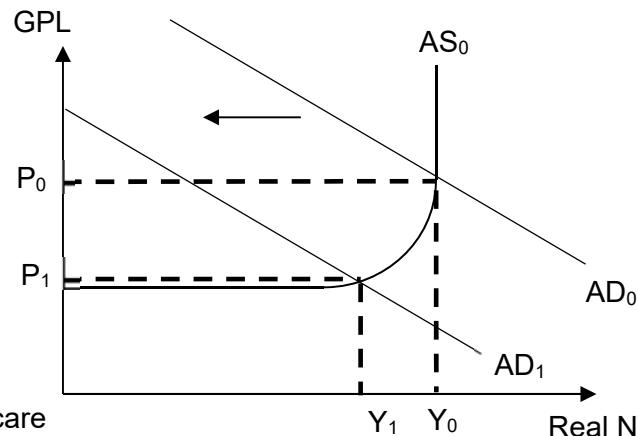


Figure 2(b)

Combined effects

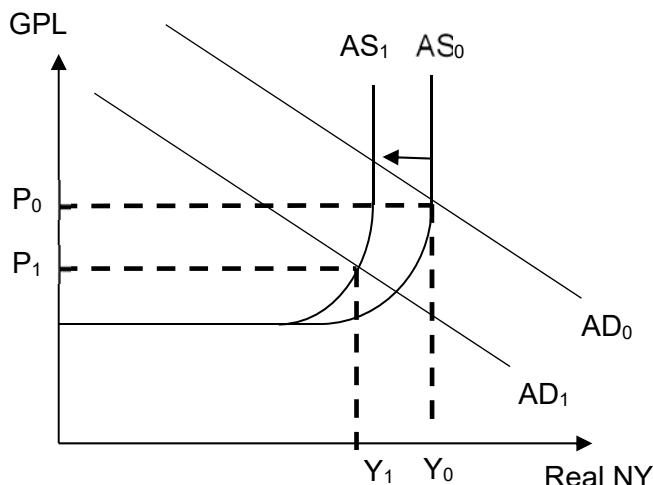


Figure 3

- Overall, there is a fall in AD from AD_0 to AD_1 and a fall in AS in the long run from AS_0 to AS_1 as shown in Figure 3. As such, real NY would unambiguously fall from Y_0 to Y_1 . However, since the preamble mentions that Japan has been experiencing deflation, we can conclude that the extent of the fall in AD is greater than the extent of the fall in AS in the long run, such that the GPL falls from P_0 to P_1 . This could be because the fall in quality of labour as the population ages may not be as significant. Although older workers may be less adaptable to technological change, they nevertheless possess more experience than their younger counterparts and this could mitigate the fall in productivity of the workforce. Furthermore, given the Asian culture of thrift, household savings would nevertheless

continue to remain high, and thus the fall in I leading to the fall in AS in the long run would not be very significant.

Rising healthcare costs

- With an ageing population, certain industries would benefit while others would be negatively affected. The insurance industry will experience growth in health insurance sales as people tend to increase their insurance coverage as they age. There would also be an increase in demand for healthcare and elderly-care services. However, there would be less spending on other consumer goods such as electronic goods.
- On a PPC, this can be represented as a movement from point A within the curve (fewer healthcare goods and services, more electronic goods) to point B within the curve (more healthcare goods and services, fewer electronic goods), as shown in Figure 3

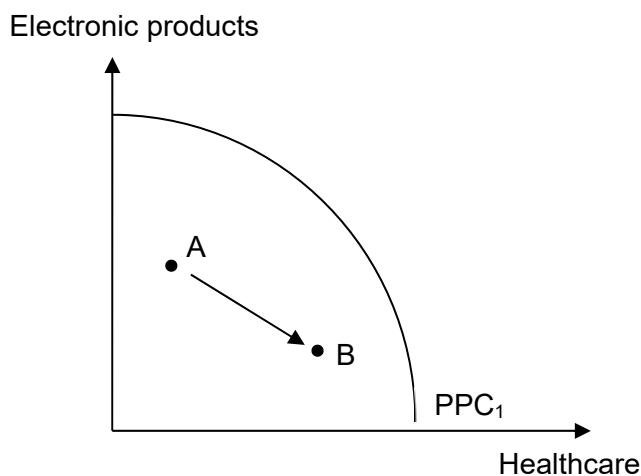


Figure 3

Part (b)

Introduction

- Define deflation and fiscal deficit:
 - Deflation is defined as negative inflation rate or when there is a sustained fall in general price level in an economy.
 - Fiscal deficit is otherwise known as a budget deficit and refers to a government's total expenditure exceeding the total revenue it generates in a fiscal year. Growing fiscal deficit suggests that Japan has a year-on-year widening fiscal deficit, which would increase its debt.
- Whether the Japanese government should be more concerned with a deflation than growing fiscal budget will depend not only on their consequences but also on its unique context of having the world's largest ageing population.

Body

Thesis: The Japanese government should be more concerned with deflation due to the harmful consequences of deflation and because deflation is difficult to tackle

- Deflation discourages consumer spending (paradox of thrift):
- During times of deflation, falling prices encourage consumers to delay purchases in anticipation of cheaper prices in future. In particular, consumers are discouraged from

purchasing luxury goods and non-essential items, e.g. flatscreen TVs because they could save money by waiting for it to be cheaper.

- As a result, consumer expenditure (C) falls, resulting in a fall in AD. This in turn causes GPL to fall further, creating more deflationary pressure in the economy.
- 2. Increase in real value of debt:

- Deflation increases the real value of debt. As a result, it is more difficult for debtors to pay off their debts. Consumers and firms have to spend a bigger percentage of their disposable income on meeting debt repayments. This is exacerbated by the fact that during a time of deflation, firms will also be earning lower revenue while consumers are likely to be earning lower wages. This leaves less money for consumer spending and investment.
- For the Japanese government, which has a big burden of public debt, deflation will make it more difficult to reduce debt-to-GDP ratios.

OR

Increase in real interest rates

- With deflation, real interest rates increase even if nominal interest rates remain constant. (Fisher equation: real interest rates = nominal interest rates – inflation rate)
- With a rise in real interest rates, the cost of borrowing is higher. This increases the opportunity cost of consumption, thus reducing consumption. In addition, consumers are less likely to take out loans for bulky purchases when the cost of borrowing is higher, thereby reducing consumption. Meanwhile, investment expenditure by firms falls since projects at the margin that were previously profitable at lower real interest rates may no longer remain profitable.
- With the fall in C and I, AD would fall.

Extent:

- In light of Japan's ageing population, its consumption expenditure would already be falling due to individuals having less income after leaving the workforce. Investment would also already be falling due to the unproductive workforce, as mentioned in part (a). Therefore, the government ought to be very concerned with deflation since it would further cause AD to fall, resulting in further deflation and possibly causing the economy to fall into a recession.

3. Difficulty in tackling deflation through existing policies

- The Japanese government should also be more concerned with deflation given the difficulty in tackling deflation through its existing policies.

a. Ineffectiveness of expansionary monetary policy

- Ineffectiveness of cutting interest rates due to zero lower bound of nominal interest rates resulting in a liquidity trap: Although the Bank of Japan lowered nominal interest rates to zero, deflation continued to persist for many years in the 1990s and 2000s. This is because with deflationary pressures, when nominal interest rates are zero and cannot be cut further, real interest rates continue to increase, leading to further fall in C and I and causing deflation to worsen.

b. Trade-offs of expansionary fiscal policy

- Expansionary fiscal policy that involves higher government spending and lower taxation would only increase Japan's budget deficit and would worsen Japan's debt problem further.

Anti-Thesis: The Japanese government should be more concerned with its growing fiscal deficit

1. Large costs of financing large and persistent fiscal deficit

- Each year that the government runs a fiscal deficit worsens its debt. The cost of financing the fiscal deficit will depend on the source of borrowing:
 - **Internal borrowing:** Leads to crowding out effect, where private investment may fall as the government competes with private investors for limited funds in financial institutions. The rise in demand by the government for the limited funds would lead to an increase in the interest rate. This further raises the cost of borrowing, reducing investment and consumption
 - **External borrowing:** Strings may be attached to loans obtained from other countries (e.g. political obligations to donors), thereby causing a country to lose some degree of its sovereignty.
- In addition, the government may need to offer higher interest rates in order to obtain loans from lenders who would be less willing to lend due to fear of default stemming from large fiscal deficit and debt. The larger the debt, the higher the risk of default, therefore requiring higher interest rates to compensate for higher risk. This would further increase the costs of servicing the debt.

Extent:

- In light of Japan's ageing population, the Japanese government's ability to secure funds to finance its spending is hindered given the fall in household savings. At present, the Japanese economy's growth has remained sluggish for decades, and this is likely to continue as its population ages. This would further increase the debt-to-GDP ratio, which would reduce the confidence that foreign entities have in the Japanese government's ability to repay its debts.

Burden on future generations

- Running persistent and large fiscal deficits would increase the size of government debt, which would place a burden on society when it comes to repaying the debt. The government would have to either reduce spending or increase spending in future in order to repay the debt. As a result, future generations will not enjoy as high a standard of living as they should. There is a trade-off with future spending on needed development expenditure such as physical infrastructure, healthcare and education.

Extent:

- In light of Japan's ageing population, the current generation of working adults would already have to face the burden of caring for not only their children but also their elderly parents. Reducing spending or increasing taxes in future would serve to increase the burden faced by these working adults, increasing their financial burdens and reducing their standard of living further.

Sovereign debt crisis

- If Japan's debt-to-GDP ratio grows too large, it may affect consumers' and investors' confidence in the ability of the government to repay its debt and perpetuates the risk of sovereign debt default. The fall in C and I would result in falling AD, leading to falling economic growth and rising unemployment. A sovereign debt crisis would also lead to hot money outflows from the economy as foreign investors seek safer investments in other countries. This would worsen the capital and financial account.

Conclusion

Stand:

- Both deflation and unsustainable fiscal deficit have dire consequences.
- But if a choice needs to be made as to which problem is more important, it depends on the severity of the respective problem and the priority of the Japanese government.
- In 2018, the Japanese government announced that it would postpone its plans to have a balanced budget to 2025, citing the need for greater spending in order to tackle the problems associated with ageing population.

Criterion 1: Trade-offs between tackling deflation and tackling fiscal deficit problem

- The Japanese government faces trade-offs when it comes to tackling deflation and its fiscal deficit problem.
- If it attempts to tackle deflation by implementing expansionary fiscal policy, it would worsen its fiscal deficit.
- However, if it attempts to reduce its fiscal deficit by implementing austerity measures, the resulting fall in AD would worsen deflation.

Criterion 2: Deflation could aggravate the problems of rising fiscal deficit

- Even so, it could be argued that deflation should be more of a concern for the Japanese government.
- Since deflation leads to a fall in consumption, it would lead to a fall in AD and a fall in national income as well as unemployment. This would reduce the amount of tax revenue that the government could collect and also result in higher unemployment and welfare benefits being paid out, thereby worsening the fiscal deficit further. Hence, the Japanese government may need to be more concerned with deflation.

Criterion 3: May be necessary to run fiscal deficit in order to tackle the problems caused by Japan's ageing population

- Furthermore, it could be argued that a fiscal deficit is necessary in order to tackle the problems caused by Japan's ageing population.
- For example, there is a need for Japanese government to spend more on the healthcare sector to meet the increasing healthcare needs of its ageing population
- The Japanese government will also need to spend more on social insurance schemes as well as pension and welfare payouts.
- Finally, it will need to spend on education and retraining in order to boost flagging productivity caused by ageing population (as mentioned in part (a))
- Therefore, Japan's growing fiscal deficit may be inevitable in light of its rapidly ageing population.

Criterion 4: Caution

- That said, the Japanese government would need to be careful not to allow the debt to balloon given that future generations already face the greater burden of having to provide more for their elderly dependents.
- With its rapidly ageing population, growth would slow further, thereby worsening Japan's fiscal deficit and debt problem.

Criterion 5: Use of quantitative easing and other policies to overcome constraints posed by ballooning budget deficit in order to tackle deflation

- The Japanese government's scope for expansionary fiscal policy is limited due to its huge budget deficit and ballooning debt. Meanwhile, traditional interest rate policy has been ineffective due to the liquidity trap. As a result, the Japanese government resorted to radical quantitative easing, in which the Bank of Japan bought huge amounts of bonds and other financial assets in order to increase liquidity and stimulate the economy. By purchasing financial assets from commercial banks and other financial institutes, it was able to increase money supply and lower the interest rates of longer maturity assets.
- Furthermore, the Japanese government has introduced plans to raise the retirement and pension age beyond 70 in order to encourage workers to remain in the workforce for longer. This would help to tackle its budget deficit problem since it would not have to increase its welfare payouts as much, while generating higher tax revenue for the government as its citizens continue to earn an income. Simultaneously, the rise in income would encourage consumption, thus helping Japan to overcome its problem of deflation.

- 5 (a)** Explain the internal and external factors that may result in a country's failure to achieve internal price stability. [10]
- (b)** Discuss whether the supply-side policies of promoting research and development (R&D) and infrastructure development can achieve various macroeconomic objectives. [15]

Marking Scheme Part (a)

Level	Knowledge, Application, Understanding, and Analysis	Marks
L3	Well-developed analytical explanation of internal and external factors of demand-pull and cost-push inflation.	8 – 10
L2	Descriptive explanation of the causes of inflation.	5 – 7
L1	For an answer that shows descriptive knowledge of causes of inflation.	1 – 4

Marking Scheme Part (b)

Level	Knowledge, Application, Understanding and Analysis	Marks
L3	For a well-developed explanation on whether SSP of promoting R&D and infrastructure development can achieve various macroeconomic objectives.	8 – 10
L2	For a descriptive explanation on whether SSP of promoting R&D and infrastructure development can achieve various macroeconomic objectives.	5 – 7
L1	For an answer that shows descriptive knowledge.	1 – 4
Level	Evaluation	Marks
E3	For a well-reasoned judgement based on economic analysis.	4 – 5
E2	For an attempt at judgement.	2 – 3
E1	For an unexplained judgement.	1

(a)

Internal price stability refers to a low and stable inflation rate. Inflation is a persistent increase in the general price level (GPL) of goods and services in an economy. A country's failure to achieve internal price stability can be due to both internal and external demand-pull and cost-push factors.

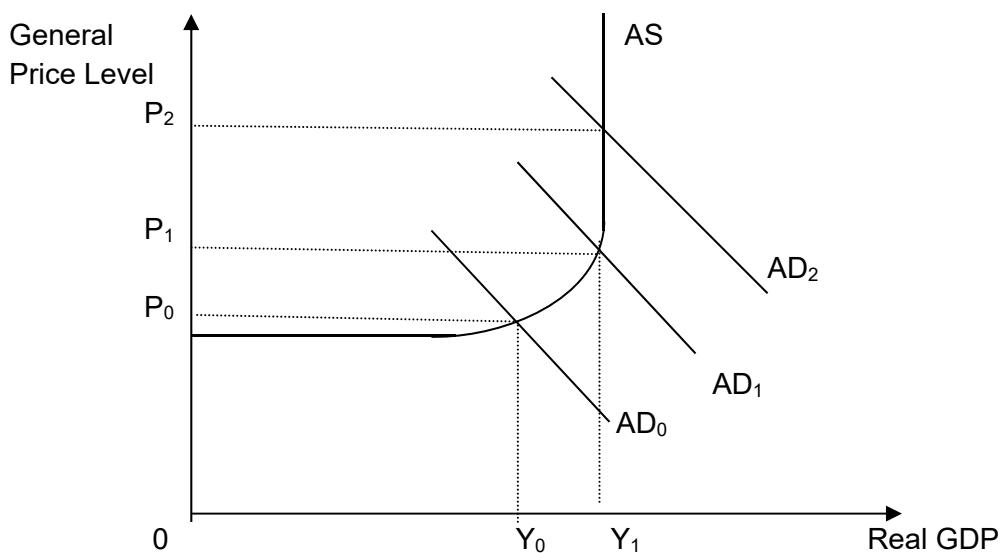
Demand-pull inflation

A country may suffer from demand-pull inflation, which occurs when increases in aggregate demand (AD) persistently exceeds that of aggregate supply (AS), causing excess demand when the economy is near or at full employment.

For example, in Singapore, one internal factor is the higher confidence in the economy due to positive economic growth over the years. Consumer confidence increases when they expect future income to increase over time, hence are more willing to take on more debts now, increasing their consumption (C). Also, businessmen are optimistic about future market conditions, hence business confidence increases and investment (I) increases as they expect future demand and profits to rise. Government expenditure (G) in Singapore has also been rising as the government spends more in areas such as infrastructure development and education and training. There has also been an increase in spending in the healthcare sector as the country faces the problem of aging population.

One external factor would be a rise in income of Singapore's trading partners, which leads to an increase in the purchasing power of consumers. This in turn, causes greater an increase in demand for Singapore's exports, increasing export revenue (X). Holding import expenditure (M) constant, net exports ($X-M$) rises. This was evident when countries like USA recovered after the 2008 global financial crisis. Since the value of Singapore's exports is more than twice the size of her domestic economy and USA is one of Singapore's largest export market, there is a significant increase in ($X-M$).

Hence the increase in C, I, G, ($X-M$) result in an increase AD near full employment level, shown by the rightward shift of AD curve from AD_0 to AD_1 . This results in a rise in GPL from P_0 to P_1 , representing demand-pull inflation. When the economy is at full employment, any further increase in AD from AD_1 to AD_2 leads to further rise in GPL from P_1 to P_2 with no increase in real GDP.



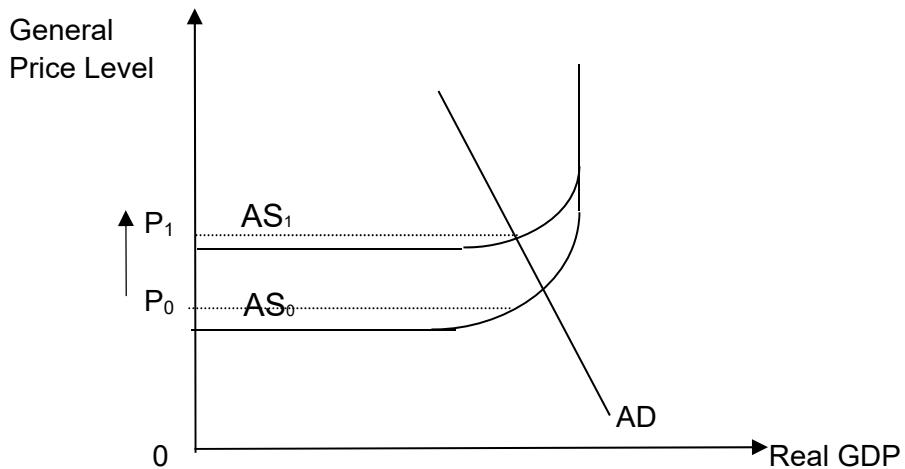
Cost-push inflation

A country may suffer from cost-push inflation, which occurs when prices are forced upwards by rising cost of production in the economy that is not due to excess demand.

For example, in Singapore, one internal factor is the wage-push factor. Tightening of foreign labour policies (e.g. reducing the ease of qualifying for employment passes, foreign worker levy) has led to the overall labour force rising slower than the demand for labour, thus resulting in labour shortage and a rise in wages. When wage increases exceed labour productivity growth, it increases the unit labour cost, and hence cost of production (COP).

Small economies like Singapore, that lack natural resources, are heavily dependent on the import of raw materials. One external factor is the rising global oil prices due to the civil war in the Middle East such as in Libya that reduced the supply of oil. This increase in price of imported oil (imported inflation) used as an important factor input in the production of goods and services in Singapore, causes increase in COP substantially.

The rise in COP subsequently leads to a fall in the profit and incentive of profit-maximising firms to produce. This causes a fall in AS in the short run, shown by the upward shift of AS curve from AS_0 to AS_1 . This increases GPL from P_0 to P_1 , representing cost-push inflation.



Conclusion

In conclusion, a country's failure to achieve internal price stability can be due to both demand-pull and cost-push inflation. In reality, inflation is multi-causal, and there are different internal and external factors of demand-pull or cost-push inflation which contribute to the increase in GPL in varying degrees.

(b)

A government has various macroeconomic objectives that includes sustainable economic growth, inclusive economic growth, low inflation, low unemployment rate and favourable balance of payments (BOP).

SSP of promoting R&D and infrastructure development can achieve sustainable growth

Sustainable growth indicates a rate of growth that can be maintained without creating other significant economic problems (such as depleted resources and environmental problems), particularly for future generations.

Promoting research and development (R&D) such as in green technology will promote growth while not hurting the environment. For example, Singapore's Research, Innovation and Enterprise 2020 (RIE2020) Plan has a domain on urban solutions and sustainability through promoting renewable energy. Economic Development Board (EDB) also launched SolarNova in 2014, to accelerate solar energy use by promoting demand across government agencies. SolarNova utilises the solar leasing business model where a private firm will install, own and operate the solar systems and sell electricity to government agencies. Such spending on R&D to promote renewable energy helps to reduce environmental problems and ensure prudent use of natural resources for future generations.

Promoting infrastructure development such as in public transportation (e.g. Singapore's transport developments include expansion of the Mass Rapid Transit (MRT) via the Downtown Line by 2017, Thomson–East Coast Line by 2023 and Jurong Region Line from 2026) will reduce private vehicle usage on roads. Such infrastructure development will reduce carbon emission, hence preventing environmental degradation. The better air quality will not affect the health and productivity of workers negatively.

Promoting R&D and infrastructure development in the SSP can also achieve positive potential growth through capital accumulation that increases productive capacity and hence aggregate supply (AS) in the long run.

However, SSP of promoting R&D and infrastructure development may not be able to achieve sustainable growth. For R&D, small economies like Singapore face physical constraints in terms of the type of alternative energy sources that can be used. This results in the lack of ability to use nuclear, hydroelectricity or geothermal power to reduce carbon emission and prevent depletion of natural resources. For spending on infrastructure development, small economies like Singapore also face land constraint that may limit the amount of public transport network it can expand. In addition, these two policies are long term policies, hence are not able to achieve actual growth in the short run.

SSP of promoting R&D and infrastructure development can achieve low inflation

SSP of promoting R&D and infrastructure development can reduce demand-pull inflation and achieve low inflation. With the increase in AS in the long run due to increase in productive capacity, general price level (GPL) in the economy will be reduced.

However, SSP of promoting R&D and infrastructure development may not be able to achieve low inflation should the problem be due to rising prices of imports such as oil and agricultural crops (imported inflation), which is especially applicable to small economies like Singapore that lack natural resources and thus are highly import-reliant. In addition, SSP of promoting R&D and infrastructure development may not be able to achieve low inflation should there be cost-push inflation due to rise in COP when wage growth exceeds productivity growth. This is because the root causes of inflation are not tackled. The exchange rate-centred monetary policy such as the modest and gradual appreciation of SGD by the Monetary Authority of

Singapore (MAS) can better curb imported inflation, and a skills retraining to improve productivity can better curb wage-push inflation.

SSP of promoting R&D and infrastructure development can achieve favourable balance of payments

SSP of promoting R&D can help to improve the non-price competitiveness of exports such as through better quality products. This increases the demand for exports in the world market. SSP of infrastructure development such as in transportation helps to increase the productivity and efficiency of workers, with less time spent on congested roads and less breathing of polluted air. This allows prices of exports to be priced more competitively in the world market when the reduction in COP is translated to consumers in terms of lower prices. Assuming that the demand for exports is price elastic due to availability of substitutes in the world market, the decrease in price leads to a more than proportionate increase in quantity demanded. This increases the export revenue (X) and hence net exports ($X-M$) of the economy, holding import expenditure (M) constant. The increase in ($X-M$) will improve the current account. These SSP can increase the business confidence of foreign investors as there is increase in expected profits due to increased cost efficiency. Hence there will also increase the inflow of long-term foreign direct investment (FDI), improving the capital and financial account. With both current account and capital and financial account improving, overall balance of payments can improve.

However, SSP of promoting R&D and infrastructure development may not be able to achieve favourable BOP should the problem of current account deficit be due to too high import expenditure or should the problem of capital and financial account deficit be due to net outflow of short term capital. This is because the root causes of unfavourable BOP are not tackled. An expenditure-switching policy such as devaluation of currency can better improve balance of trade and hence improve current account, and a contractionary monetary policy can better increase short-term hot money inflow and hence improve capital and financial account.

SSP of promoting R&D and infrastructure development cannot achieve actual growth, inclusive growth and low unemployment rate

SSP of promoting R&D and infrastructure development that focus on increasing productive capacity of the economy are not able to achieve positive actual growth and low unemployment rate through the reduction in cyclical unemployment which are due to rising AD and/or AS in the short run. This is because the root causes of the problems are not tackled. Expansionary demand management policies such as expansionary fiscal or monetary policies can better achieve positive actual growth when there is deficiency in demand, and the appreciation of SGD can better reduce COP arising from rising prices of imported raw materials and intermediate goods. Through these policies, the increase in NY will then signal firms to expand production and increase derived demand for labour, hence can reduce cyclical unemployment.

SSP of promoting R&D and infrastructure development are not able to achieve low unemployment rate through the reduction of structural unemployment, as well as to achieve inclusive growth because they are not the specific types of SSP that reduce the mismatch of skills. Increased spending on training, such as SkillsFuture Credit and Adapt and Grow scheme in Singapore, is able to eliminate the structural bottlenecks and aims to make workers more responsive to changes in job opportunities, hence can achieve low unemployment rate. These initiatives not only increase the productivity of workers and facilitate potential growth, but also ensure that those who may not have the necessary resources are given the support they need to bolster their skills and move up the income ladder to close the income gap, hence can achieve inclusive growth.

Evaluation

Combination of policies to tackle various root causes

SSP of promoting R&D and infrastructure development can achieve some macroeconomic objectives to a small extent. Macroeconomic problems such as internal price instability stemming from demand-pull inflation and balance of payments deficit due to current account deficit stemming from poor export growth can be alleviated. Since these macroeconomic problems are typically multi-causal or it's difficult for the government to diagnose the root cause, implementing a combination of policies to target the different root causes of the problems can better achieve the macroeconomic objectives. For structural unemployment, specifics type of SSP such as education and training are required to reduce the mismatch of skills between the retrenched workers and what is demanded by the expanding industries, thereby can also achieve inclusive growth. In addition, for example, a combination of demand management policies to achieve positive actual growth and supply management policies to achieve positive potential growth, environment protection and prudent use of natural resources can better achieve sustainable economic growth.

Possible conflicting objectives

SSP of promoting R&D and infrastructure development may result in certain trade-offs with other macroeconomic objectives. For example, with economic restructuring partly driven by promoting R&D will increase structural unemployment. This is because there will be many workers who are retrenched in the sunset industries and do not have the necessary skills and training to switch to jobs in sunrise industries, resulting in a mismatch of skills. In addition, promoting R&D through introducing capital-using technologies can create rural and urban unemployment, and promoting infrastructure development to urban areas and ignoring the rural sector where most of the poor live will result in inequity and cause low- and middle-income group to have less access to basic goods such as healthcare and transport. This conflicts with inclusive growth.

Prevailing economic conditions and fiscal position

Whether SSP of promoting R&D and infrastructure development can achieve the macroeconomic objectives ultimately depend on the types and causes of challenges faced by the economy, for example weak productivity growth and global economic slowdown. Countries that face budget deficit may not be able to spend on education and training to boost productivity or expansionary fiscal policy as compared to a government with strong fiscal position. Similarly, promoting R&D and infrastructure development in the SSP require high amounts of government spending. While they generally pose less problems for governments that run budget surpluses such as Singapore, governments such as those in the US might have less ability to do so as they incur a budget deficit, hence may not be able to achieve sustainable growth. Thus, the government must exercise flexibility in deciding on a suitable combination of policies to ensure that the economic priorities are addressed and that trade-offs that could occur are minimised.

- 6 Discuss the possible impact of globalisation on developed and developing economies and the policy measures that the Singapore government could adopt in response to the threats of globalisation. [25]

Level	Knowledge, Application, Understanding, and Analysis	Marks
L3	For a well-developed explanation on gains and threats of globalisation on developed and developing economies, and the effectiveness of policy measures to deal with the threats of globalisation. Top marks for students who display application to context, show similarities/differences of gains/threats between developed and developing economies.	15 – 20
L2	Descriptive explanation on gains and threats of globalisation on developed and developing economies, and the effectiveness of policy measures to deal with the threats of globalisation.	9 – 14
L1	For an answer that shows descriptive knowledge	1 – 8
Evaluation		
E3	For a well-reasoned judgement based on economic analysis.	4 - 5
E2	For an attempt at judgement.	2 – 3
E1	For an unexplained judgement.	1

Introduction

Globalisation is the increased integration of national economies into the global economy. Globalisation results in greater flow of goods and services, capital and factor resources among different economies, both developed & developing, which leads to greater interconnectedness and interdependence.

Developed economies has highly progressed and possesses great technological infrastructure whereas economies with low industrialisation and low human development index are termed as developing economies.

Body 1

– Explain the positive impact of globalisation on developed and developing economies

International trade refers to the exchange of goods and services between countries. Due to international immobility of resources, different countries have differences in efficiency in producing different goods. For example, for a developed economy such as Singapore has more advanced technology and skilful workforce whereas a developing economy such as Vietnam are endowed with natural resources, fertile land and has a cheaper workforce which is less skilled. This results in international differences in costs which causes differences in prices, which is the basic cause of trade. Some things which might be cheaper to produce at home will be exported while those which are more costly to produce at home will be imported.

These economies exploited the theory of comparative advantage and tapped on the opportunities presented by globalisation to expand their exports market beyond her national boundaries. This resulted in specialisation in producing goods and services where their area of comparative advantage (CA) lies in. The theory of CA explains that Singapore might wish to trade with Vietnam based on the differences in opportunity costs of production. The opportunity cost of producing good X is the amount of the other good which has to be sacrificed in order to produce an additional unit of X. As long as there is a difference in relative

opportunity cost between economies and each economy specialises according to their CA, both economies could gain from trade. When developed and developing economies specialise according to where their CA lies in, developed economies tend to produce high value-added goods whereas developing economies produce low-end and labour intensive manufacturing. For example, Singapore specialised in refined petroleum and trade with Vietnam for her crude oil and garments.

Specialisation also leads to an expansion of their scale of production, thus allowing firms in these economies to enjoy economies of scale leading to lower unit costs of production. This in turn enabled them to make their exports more price competitive. *Ceteris paribus*, rising net exports earnings would increase their AD leading to an increase in the national income via the multiplier effect. This rise in national output would be fuelled by greater production and expansion plans which would lead to higher employment. The living standards of these economies will see an improvement, both in the material and non-materials aspects due to rising affluence.

Due to its low agricultural output, Singapore imports almost 90% of its food products from neighbouring countries. This has led Singapore to develop expertise in the areas of food technology, storage, packaging and logistics. On the other hand, the agriculture sector in Vietnam has been a major contributor to her economy but its products are perceived as being of lower value and quality. Singaporean firms can provide the expertise in the use of advanced technology and techniques for value-added processing. They can subsequently re-export the processed food products from Singapore after value-added processing.

Domestic factor inputs in developed economies may be relatively more expensive due the differences in their stage of development as compared to what is available in developing economies. Globalisation provides opportunities for Singapore to source for cheaper factor inputs such as electronic components from different developing economies. This would help to avoid rising cost of operations and imported inflation and in turn raise Singapore's export competitiveness since many of her exported goods use imported raw materials. At the same time, Vietnam imports intermediate factor inputs and capital equipment from more developed economies for her assembly line sectors and manufacturing industries. Thus greater ease in flow of goods and services would imply a cheaper and a wider variety of imports to choose from.

Developed and developing economies both enjoy a higher standard of living as a result of access to foreign imports. For example, developed economies import luxury goods and developing economies import consumer durables.

The educated, skilled workforce and positive investment climate in Singapore and Vietnam's low operating cost environment attracted many different types of foreign direct investments (FDIs) respectively. The ease of inflow of FDIs helped improve economic growth and employment of these economies. In addition, the technological transfer from the MNCs has helped to enhance the productivity of their production, distribution and marketing processes, together with greater sharing of technical and managerial skills, knowledge and experience. In this regard, developing economies gain more from FDIs inflows as their local investors are often handicapped in terms of financial ability and are not scalable. The increase in FDIs and productivity levels has boosted the long run potential growth of these economies. The increase in trade and capital movements in favour of Singapore and Vietnam improve their balance of payments and strengthen their external value of currency. As the stronger currencies are achieved via free market forces, there is no need for their governments to tap on its foreign reserves. This in turn benefited the economies in fending off imported inflation.

With a freer movement of labour, developed economies such as Singapore which experiences high labour costs are now better able to utilize workers from other economies. Foreign workers

can fill up the vacancies requiring lower level of skills and which Singaporeans tend to shun. For instance, Singapore imports a lot of low skilled foreign workers from South Asia like India, China, Malaysia and Philippines to work in the construction sector and as domestic maids. Vietnam on the other hand, was able to tap of foreign expertise and talents to boost their capability and potential capacity.

Body 2

– Explain the negative impact of globalisation on developed and developing economies

Unfortunately, the economic gains of globalisation do not come without threats.

The downside of being open to trade and adopting a pro-globalisation stance increased both developed and developing economies' vulnerability to external shocks. The 2009 Global Financial Crisis affected these economies adversely, caused them to slip into recession and resulted in high cyclical unemployment. The extent of the adverse impact depends on the financial abilities of the respective governments to implement policy measures to contain such the spillover effects. Developed economies may be more equipped than developing economies in doing so. This could be due to their stronger fiscal health which could assist in cushioning spillover effects. Developed economies may have a more structured and established process to manage such external shocks, in short, they may have developed greater resilience after going through more economic hardships.

Developed and developing economies also experience increased threats to external shocks such as imported inflation - increase in global prices of imported raw materials, intermediate factor inputs and final goods and services, all depending on what they import and where they import from.

With freer flow of FDIs, some industries start to move out from developed economies such as Singapore to low-cost economies where costs of labour, land and raw materials are relatively lower. The Singapore economy will then undergo restructuring and this will result in structural unemployment if the retrenched workers do not have the relevant skills to take up other jobs in the labour market. Although, developing economies such as Vietnam seems to benefit more from such FDIs movements, they are not safe from threats of globalisation either. Vietnamese workers face challenges in terms of suppressed wages. This is both due to the profit maximising expectations by FDIs and also Vietnam's heavy dependence on foreign investments. Vietnam's economic success over the past three decades has been built in no small part on its openness to foreign investments. FDI accounted for 25% of investment in Vietnam between 2011 and 2015, and contributed 20.1% of GDP in 2015. Such exposure meant greater susceptibility due to freer FDIs movements in time to come when Vietnam gets less cost effective relative to other less developing economies.

Globalisation results in rising income inequalities between the skilled and the unskilled workers in these economies. With greater mobility of labour, the unskilled workers face stiff competition from foreign workers. With a higher supply, the wages for unskilled workers fall. On the other hand there is a shortage of skilled workers whose supply is limited and the demand for their services is high. This situation leads to rising wages for the high skilled workers.

Evaluation 1

In conclusion, different economies both get to enjoy various economic gains from globalisation and also suffered as a result of various threats of globalisation. The similarities and differences in terms of gains and threats of globalisation experienced by both developed and developing economies are also discussed above.

Government intervention is hence necessary. The effectiveness and success of policy measures are crucial to determine whether any economy can reap the net benefits of globalisation.

Body 3

– Explain policy measures that the Singapore government could adopt in response to the threats of globalisation and its limitations

The Singapore government could implement the following policy measures to reduce the threats of globalisation she suffered from.

Policy 1

To reduce the vulnerability to an external shock such as global recession, which will spill over to dampen the Singapore economy, the Singapore government could adopt an expansionary fiscal policy to stimulate her economy. The Singapore government could spend on infrastructure projects such as building new airport terminals and expanding her MRT networks. A reduction in personal income tax would stimulate consumer spending through an increase in disposable income, whereas reductions in indirect taxation would enable a given disposable income to buy more goods and services. A cut in corporate tax will increase after-tax profits and thus encourage private investment. When the Singapore government increases her spending or reduces taxes, the resultant increase in AD will in turn raise national income via the multiplier process and reduce cyclical unemployment.

However, the expansionary effect of fiscal policy is limited as the root cause of recession is caused by external factors. Further, Singapore is a small and open economy with a weak multiplier effect. Singapore's fiscal multiplier effect tends to be weak as she has a lack of resources and is an import dependent country. In addition, due to her compulsory savings scheme (Central Provident Fund), it resulted in a large amount of leakages from the circular flow of income. An increase in government spending may not have a significant impact on income and employment as a big proportion of the increase in income is spent on imported goods. Consequently, the magnitude of the impact on national income, production and hence unemployment will also be small.

Policy 2

A relatively strong Singapore's exchange rate has to be maintained to cushion the impact of rising costs of imported raw materials and final goods and services. A modest and gradual appreciation of the Singapore dollar causes the prices of imports to become relatively cheaper and this will help to tame imported inflation.

However, an appreciation of the exchange rate tends to erode the price competitiveness of her exports. It will in turn hurt trade, worsen her current account balance and balance of payments. Managing the exchange rate also has its challenges, the Monetary Authority of Singapore (MAS) needs to know when to intervene, what exchange rate they should aim to maintain, and how persistently they should try to maintain that rate.

MAS may not have up-to-the-minute, reliable information about the state of the global economy and the various interactions in the foreign exchange market. Since the extent of success of the policy depends on how much the exchange rate is allowed to appreciate or depreciate, this would require the accurate analysis of the level of world inflation and likely movements of other exchange rates.

If the SGD is too strong, it will discourage FDIs as the cost of wages, raw materials and capital goods will be relatively higher when expressed in home currency. Nevertheless, besides the exchange rate, there are also other determinants of investment. On the other hand, if the SGD

is too weak, it may lead to domestic inflationary pressures. Intervention is only possible if there are enough foreign reserves. MAS must have adequate foreign reserves in order to intervene in the foreign exchange market as frequent buying to prop up the value of SGD may deplete the foreign reserves. Thus, such a measure is only feasible when it is supported by strong economic fundamentals that lead to an increase in the demand for the local currency, otherwise intervention to prop up the local currency is not sustainable in the long run.

Policy 3

To reduce structural unemployment, workers need to be retrained in order to acquire the skills required in the sunrise industries. Investment in retraining and upgrading of skills of workers is essential to ensure occupational mobility of labour. The Continuing Education and Training helps to equip the Singapore workforce with the skills for job opportunities in the sunrise industries. There is also a need to provide assistance to the lower-income households to reduce the widening income gap. Instead of encouraging reliance on the government for financial assistance, policy measures that help workers to upgrade their skills and the Workfare Income Supplement scheme could be adopted to provide incentives for workers to remain employed and acquire better skills that enable them to earn more.

However, the success of skills upgrading depends on the receptiveness of the workforce to retraining as workers may not have the abilities to learn new skills or they are resistant to the idea of changing jobs. This measure also requires large funding and takes a long time to see positive results.

Evaluation 2

In view of the nature of the Singapore economy, Singapore has gained much from globalisation. A combination of policy measures is required to reduce the threats of globalisation and any possible trade-offs. Protectionism is not a choice to protect the local industries or Singaporeans. The Singapore economy can only thrive on its openness and ride on the wave of globalisation through signing free trade agreements (FTA).

FTA could be signed with various countries to eliminate tariffs on Singapore's exports, thus boosting the export earnings. This benefits industries which are mainly export-oriented and creates employment for the economy. However, free trade agreements can at best diversify our risks. As the global economy is interconnected, a recession in one country tends to affect the economic performance of other countries. In order to reduce the external shocks transmitted from other countries to Singapore, policy measures should be implemented to attain sound economic fundamentals of the economy so that Singapore is resilient when it encounters any crisis.

As comparative advantage evolves over time, the Singapore government also needs to be ahead of its times and be able to identify new niche areas. This includes the attempt to develop new clusters of growth and to equip Singaporeans in knowledge intensive sectors such as environmental and water technology. The Singapore government places huge emphasis on continuous education, retraining and skills upgrading to help her workforce upskill. This can be shown by her economic priority and large amount of budget set aside for this purpose. These plans to upgrade the skillsets of her workforce, unlike other countries, is not impeded by a lack of funding. This is because the Singapore government has the financial ability to implement her plans, aided by past fiscal prudence.

Candidate Name: _____

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2018 Preliminary Exams

Pre-University 3

ECONOMICS**9757/01**

Paper 1: Case Study

12 September 2018

Additional Materials: Answer Paper

2 hours 15 minutes

READ THESE INSTRUCTIONS FIRST

Write your name and class on all the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use a soft pencil for any diagrams or graphs.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer all questions.

Begin your answer to Question 2 on a fresh sheet of writing paper.

At the end of the examination, hand in your answers to the 2 questions **separately**.

The number of marks is given in brackets [] at the end of each question or part question.

Answer **all** questions.

Question 1 Healthcare and Health Insurance

Extract 1: Global trends in healthcare expenditure

Between 2004 and 2014, the World Bank reckons that the average share of health expenditures of high-income countries has increased from 10.9 to 12.3 per cent of gross domestic product (GDP). Singapore is no exception as its share of health expenditure as a percentage of GDP has increased from 3.3 to 4.6 per cent between 2011 and 2015. However, this was not the case for all countries. The equivalent figures for Ireland were 9.9 in 2011 and 7.8 in 2015.

An important factor is the development and adoption of new and expensive health technologies such as biologics - extremely costly drugs revolutionising the treatment of rheumatoid arthritis, cancers and diabetes. Another factor is rising wages, fuelled in part by competition between private providers to attract the best healthcare professionals. This is compounded by the fact that retrenched PMETs from other fields cannot easily enter the healthcare sector due to a mismatch of skills.

The quantity of care consumed in Singapore is also increasing. While population ageing is often cited as a cause, lifestyle risk factors, such as eating too much and exercising too little, also contribute to the rise of costly chronic conditions.

Adapted from: Various

Extract 2: The balance needed in health insurance

Health insurance plays a central role in influencing healthcare consumption. By significantly decreasing the price of care at the point of consumption, insurance plans increase the quantity of care consumed. Part of this increase is actually a good thing as it reflects better access to healthcare, especially for lower-income individuals who could not afford treatment otherwise. However, by distorting the price of care, health insurance may induce overconsumption. Having an insurer pay 100 per cent of a patient's bill is hardly conducive to encouraging prudent spending.

This illustrates the subtle balancing act of health insurance: While some coverage¹ is good, too much is detrimental. Overconsumption of care puts a financial burden on insurance companies which, in turn, need to increase their insurance premiums².

Adapted from: The Straits Times, 1 Feb 2018

¹ Insurance coverage refers to the portion of the medical bill that is paid for by the insurance company.

² Insurance premiums are the price of insurance policies paid by consumers (the insured) to the insurance firms.

Extract 3: Singapore's national health insurance scheme – MediShield Life

MediShield Life is a basic health insurance plan which helps to pay for large hospital bills and selected costly outpatient treatments, such as dialysis and chemotherapy for cancer. MediShield Life will provide protection for all Singapore Citizens and Permanent Residents,

for life, including for any serious pre-existing conditions. Individuals can use the money in their Medisave accounts to pay for MediShield Life premiums.

There are three main features of MediShield Life - claim limits, deductibles, and co-insurance.

Claim Limits are the maximum amount that the insured can claim from MediShield Life. There are different claim limits for each type of expense, such as the daily ward charges and the type of treatment or surgery undertaken. For example, the claim limit for radiosurgery is \$4,800 per procedure. The portion of the bill above the claim limit will be paid by the insured.

The deductible is the fixed amount within the claim limit that is payable by the insured before the MediShield Life coverage kicks in. The deductible is payable only once every policy year and increases with age and the ward class. For example, for those aged 80 and below, the deductible is \$1,500 for stays in Class C wards.

The co-insurance is a percentage (e.g., 3%) of the remaining claimable amount after subtracting deductible which the insured have to pay.

The deductible and co-insurance serve to avoid the overconsumption often associated with insurance schemes that cover 100% of hospital bills.

Adapted from: Ministry of Health website (<https://www.moh.gov.sg>)

Extract 4: Hard truths about co-payments in insurance

The seminal study of health insurance conducted more than 30 years ago in the United States by Professor Willard G. Manning showed that introducing insurance co-payments such as deductibles and co-insurance substantially decreased health expenditures with only very few adverse health effects. Since that study, all public insurance schemes, including Singapore's MediShield Life scheme, have included such elements.

However, the hard truth is that there is very little data on how to optimally set the level of these co-payments. There is considerable variation internationally. For instance, France's deductible lies below \$2 per sickness episode, while Switzerland's maximum annual deductible of \$3,500 is higher than Singapore's. For co-insurance rates, Germany's ranges from 5 to 10 per cent, while France's ranges from 30 to 40 per cent. No international guidelines exist.

Adapted from: The Straits Times, 1 Feb 2018

Extract 5: Why is healthcare overconsumed and what can we do about it?

Apart from overly-comprehensive insurance coverage, another factor causing the overconsumption of healthcare worth mentioning is "physician-induced demand" where some doctors take advantage of patients' lack of medical knowledge to provide them with more care than necessary, or to charge a higher fee. Physician-induced demand is especially prevalent when complete insurance coverage causes patients to have little financial incentive to question whether the care they receive is necessary since it is all covered by their health insurance.

To combat this problem, Singapore set up the Agency for Care Effectiveness (ACE), a national health technology assessment centre, in 2015. ACE's work will help Singapore doctors and consumers determine the value for money of healthcare, in terms of life and quality of life

gained. Its first tranche of 11 drug guidances based on how well these drugs work and their cost-effectiveness was published on 3 May 2017. ACE is part of the Ministry of Health's (MOH) efforts to achieve its mission of:

- Promoting good health and reducing illnesses;
- Ensuring access to good and affordable healthcare; and
- Pursuing medical excellence.

Adapted from: The Straits Times, 1 Feb 2018 and Ministry of Health website
[\(<https://www.moh.gov.sg>\)](https://www.moh.gov.sg)

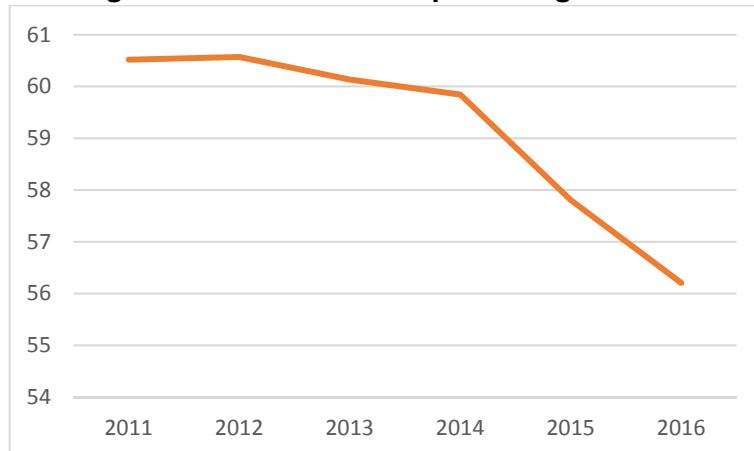
Questions

- (a) Using the information from Extract 1, compare the change in share of health expenditure as a percentage of GDP between Singapore and Ireland from 2011 to 2015. [2]
- (b) Explain how each of the following led to the trend in healthcare expenditure in Singapore.
- (i) ‘the development and adoption of new and expensive health technologies’ and ‘rising wages’ [4]
- (ii) ‘population ageing’ and ‘lifestyle risk factors’ [2]
- (c) Explain how the statement “retrenched PMETs from other fields cannot easily enter the healthcare sector due to a mismatch of skills” illustrates a form of inefficiency in the healthcare market. [2]
- (d) (i) Explain the source of market failure caused by ‘(h)aving an insurer pay 100 per cent of a patient’s bill’ (Extract 2). [2]
- (ii) With reference to the case material, assess the use of deductibles and co-insurance (Extract 3) to address the market failure in (d)(i). [8]
- (e) With the use of the case material and your own knowledge, discuss whether the setting up of the Agency for Care Effectiveness (ACE) will help Singapore achieve its microeconomic aims. [10]

[Total: 30]

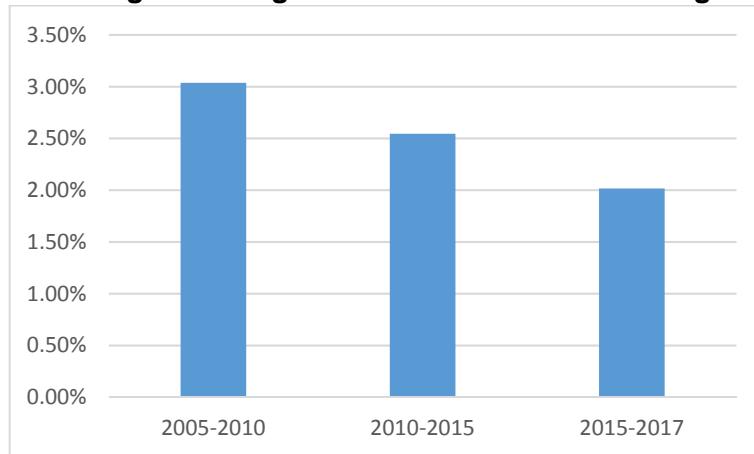
Question 2: Globalisation and Deglobalisation

Figure 1: Global trade as percentage of GDP



Source: World Bank

Figure 2: Average annual growth rate of international migrant stock*



*International migrant stocks are estimates of "the total number of international migrants present in a given country at a particular point in time"

Source: <https://migrationdataportal.org>

Table 1: Number of non-tariff barriers in G20* countries

Year	2010	2016
No. of non-tariff barriers	300	1,200

*The G20 is a group of countries that make up more than 85% of the world economy

Source: World Bank

Extract 6: What is deglobalisation?

Deglobalisation is the reversal of globalisation. The last time the world experienced it on a significant scale, between 1914 and 1945, was one of the darkest periods in history, encompassing two world wars, economic depression and trade protectionism.

The current reality is not yet in that territory. It is clear, though, that the recent wave of globalisation has stalled since the financial crisis. Less certain is how far it may go into reverse.

Globalisation is credited with helping to increase the global standard of living by allowing populations in every country to consume more.

Workers in the developed world, however, have suffered more costs than benefits. Many blame globalisation for job insecurity and stagnant wages, creating an anti-establishment backlash that swept Donald Trump to the US presidency on a protectionist ticket, fuelled the UK's Brexit vote, and aided populist movements in countries including Germany and the Netherlands.

Adapted from: RSM Global, 4 Jan 2018

Extract 7: Trump's misguided trade war

U.S. President Donald Trump may sincerely think he's battling to win Americans a better deal on trade with China. In fact, he's making a better deal harder to achieve — and threatening to inflict grave economic damage on the U.S. economy in the process.

In the past few days, Trump has dramatically cut the chances of a negotiated solution to the two countries' various trade disputes. He announced a first set of tariffs on \$50 billion worth of Chinese goods, prompting an entirely predictable Chinese vow to retaliate. Now he's followed up with a new threat to impose tariffs on an additional \$200 billion in Chinese imports (and possibly another \$200 billion after that).

The president's actions are increasingly hazardous to the U.S. economy's health. If implemented, the tariffs — taxes paid in the end by U.S. consumers — would be an act of self-harm on American households. The latest ones would be applied to both semi-finished and finished goods such as electronics and sneakers, the latter directly raising prices for U.S. consumers.

American firms are not spared either. The recent tariffs imposed on iron and steel imports from US's traditionally closest allies (also introduced under President Trump) deal a blow to US carmakers. And, this is even before China's government chooses to retaliate, as it probably would.

Perhaps the administration thinks China's ability to punch back is limited, since the country doesn't import enough from the U.S. to penalize an equivalent \$200 billion in goods. But China can retaliate in other ways — for example by obstructing U.S. companies operating on the mainland, promoting boycotts of U.S. goods, or throttling the flow of students and tourists to the U.S.

Adapted from: <https://www.bloomberg.com> and <https://qz.com>

Extract 8: A historical look at import substitution and export promotion

Historically, less developed countries (LDCs) have adopted either one of two alternative strategies for achieving industrialisation – an inward-looking strategy (i.e., import substitution which promotes the production of goods domestically instead of imports, and encouraging growth of domestic enterprise) or an outward-looking strategy (i.e., encouraging exports through participating in international trade according to the theory of comparative advantage, and attracting multinational corporations (MNCs)).

Import substitution relies on imposing protectionist measures such as tariffs or other non-tariff barriers on imports. Countries that have had more success with it include the BRIC (Brazil, China, India, and China) where domestic markets are large enough for domestic producers to gain economies of scale and still support sufficient domestic competition to prevent excessive complacency and hence inefficiency.

In contrast, in export-led growth, countries produce according to their long-term comparative advantage, which changes over time based on acquired skills and technology. Economies that have experienced success using this approach include Hong Kong and Singapore that used exports to overcome the limits of their domestic markets. Such countries also adopted an outward-oriented approach towards industrialisation. Instead of encouraging the growth of home-grown expertise and technology, these governments chose to quicken the pace of the industrialisation by encouraging MNCs to set up shop locally to create the technology and skill transfers. These were facilitated by the healthy political ties that both economies enjoyed with other economies, which smoothed the path of signing free trade agreements (FTA).

Adapted from: <http://www.economicsdiscussion.net> and Future Business Journal

Questions

- (a) Explain how any two pieces of the data shown in the Figures and Table 1 show that the world is in a state of 'deglobalisation'. [2]
- (b) Suggest another piece of information and explain how it would help determine whether the world is in a state of deglobalisation. [2]
- (c) Using the case material from Extract 6,
 - (i) Explain a benefit of globalisation [2]
 - (ii) Explain two reasons for the trend of deglobalisation. [4]
- (d) Explain how the tariffs imposed by President Trump would be 'an act of self-harm on American households'. [2]
- (e) Discuss whether producers of different goods in the US will experience net benefit from President Trump's tariffs (Extract 7). [8]
- (f) With reference to the case material, discuss the factors that determine whether a country would be more successful in achieving growth through an inward- or outward-looking strategy in today's world. [10]

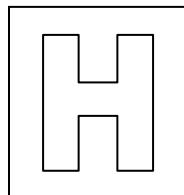
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Candidate Name: _____

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2018 Preliminary Exams

Pre-University 3

ECONOMICS**9757/02**

Paper 2: Essay Questions

17 September 2018**2 hours 15 minutes**Additional Materials: Answer Paper
Cover Page

READ THESE INSTRUCTIONS FIRST

Write your name and class on all the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use a soft pencil for any diagrams or graphs.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer three questions in total, of which one must be from Section A, one from Section B and one from either Section A or Section B.

At the end of the examination, hand in your answers to the 2 sections together with the cover page on top.

The number of marks is given in brackets [] at the end of each question or part question.

Answer **three** questions in total.

Section A

One or two of your three chosen questions must be from this section.

- 1 The price of water in Singapore will be increased by 30%. Rising costs of resources and the use of more complex development approaches have exerted upward pressure on the costs of producing and delivering water.

Source: Minister for the Environment and Water Resources Masagos Zulkifli, 2017

Discuss the demand and supply factors that determine the price of water and assess which is the most important factor.

[25]

- 2 In 2016, Australia-based TPG Telecom won the rights to become Singapore's fourth telco operator after the three incumbents — Singtel, Starhub and M1 — had the market locked up for 15 years. Players such as Colt (a United Kingdom Telecom) are also looking to enter the market.

Source: CNBC, 17 July 2017

(a) Explain how firms in the above market rationally make price and output decisions.

[10]

(b) Discuss how the entry of new firms will affect existing telco operators and consumers.

[15]

- 3 Prior to 2013, entrance to national museums and heritage institutions required admission fees. However, in 2013, the Singapore government announced free admission fees for all Singaporeans and Singapore Permanent Residents to national museums and heritage institutions.

(a) Explain why the Singapore government changed its approach in the intervention in the market for national museums.

[10]

(b) Assess the relative effectiveness of the current approach to encourage the consumption of the arts and culture in Singapore.

[15]

Section B

One or two of your three chosen questions must be from this section.

- 4** Improving productivity has taken on an added urgency as it affects wage growth and global competitiveness. As alternative ways of achieving growth—particularly growth induced by the influx of foreign workers—run out, a successful productivity campaign becomes ever more salient.

Discuss whether policies to improve labour productivity are the only way to maintain global competitiveness and sustain growth for Singapore. [25]

- 5** The Monetary Authority of Singapore's primary goal is ensuring price stability and maintaining confidence in the domestic currency. Monetary policy in Singapore is centred on the exchange rate.

(a) Explain how the exchange rate can be used to maintain price stability in Singapore. [10]

(b) Discuss whether price stability should remain the top priority of the Singapore government given the gloomy world outlook. [15]

- 6** (a) Explain the internal and external causes of a trade deficit. [10]

(b) Discuss the factors that governments should consider when adopting policies to tackle this problem. [15]

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CSQ1: Healthcare and Health Insurance

(a)	Using the information from Extract 1, compare the change in share of health expenditure as a percentage of GDP between Singapore and Ireland from 2011 to 2015.	[2]
	While Singapore's healthcare expenditure as a percentage of GDP increased, that of Ireland decreased. [1m] In terms of magnitude, the extent of the decrease for Ireland was larger than the increase for Singapore. [1m]	
(b)	Explain how each of the following led to the trend in healthcare expenditure in Singapore.	
(i)	'the development and adoption of new and expensive health technologies' and 'rising wages'	[4]
	Both increase COP → fall in supply [1] Fall in supply → increase P and decrease Q [1] Since healthcare is a necessity, demand is price inelastic [1] So, fall in Q is less than prop to increase in P, causing TE to increase [1]	
(ii)	'population ageing' and 'lifestyle risk factors'	[2]
	Both lead to an increase in D for healthcare [1] Increase in D → increase in P, Q, and hence TE [1]	
(c)	Explain how the statement "retrenched PMETs from other fields cannot easily enter the healthcare sector due to a mismatch of skills" illustrates a form of inefficiency in the healthcare market.	[2]
	The statement shows inefficiency due to factor immobility [1] This is because the occupational immobility caused by the lack of skills means that these retrenched PMETs remain unemployed, which causes productive inefficiency (not producing on the PPC) as labour resources are not utilised. [1] Also accept structural unemployment but must be linked to some form of inefficiency for full credit.	
(d) (i)	Explain the source of market failure caused by '(h)aving an insurer pay 100 per cent of a patient's bill' (Extract 2).	[2]
	The action of undergoing medical procedure undertaken by consumer but cost of going for healthcare procedures borne by insurer [1] This creates moral hazard where the consumers will overconsume even if the procedures are not necessary / consumers will not be careful about health [1]	
(ii)	With reference to the case material, assess the use of deductibles and co-insurance (Extract 3) to address the market failure in (d)(i).	[8]
	<p><u>Question analysis:</u></p> <p>Command word = "assess" → Need 2 sides and an evaluative conclusion Content = "the use of deductibles and co-insurance to address the market failure" → Need to explain how deductibles and co-insurance correct the market failure due to moral hazard and the limitations Context = insurance industry</p> <p><u>Introduction</u></p>	

	<p>Deductibles and co-insurance are supposed to correct the market failure due to moral hazard in the insurance market.</p> <p><u>Thesis: Use of the 2 measures solves moral hazard</u></p> <p>Both the deductible and co-insurance require consumers to co-pay for the healthcare they consume, even though they have insurance. This solves the overconsumption due to moral hazard as consumers will consider whether they really need the treatment when they have to co-pay for it. Without such co-payment (i.e., if the insurance company pays for everything), consumers will consume healthcare services even if they don't need it.</p> <p><u>Anti-thesis: Limitations of the 2 measures</u></p> <p>However, there may be implementation problems. First, because of imperfect information, the deductible and co-insurance amount may be set too high or too low. This is seen in Extract 4 where there is a great variance in deductible and co-insurance across different countries, which shows that there may be a lack of research on what the optimal levels of deductible and co-insurance are.</p> <p>Additionally, the 2 measures may worsen inequity. Extract 2 points out that the reduction in price of healthcare paid by consumers due to insurance is a good thing as it improves access by low income. Conversely, making consumers co-pay for healthcare would worsen inequity as it increases the price of healthcare to consumers. Since healthcare is a necessity and a higher price might make it unaffordable to low income consumers, deductibles and co-insurance may worsen inequity. Additionally, such payments are regressive in nature as they take up a larger portion of the poor's income than the rich's.</p> <p><u>Conclusion</u></p> <p>In conclusion, deductibles and co-insurance are necessary to correct moral hazard. However, how well they are used depends on specific context of the country. For richer and more developed countries, the optimal deductible and co-insurance should probably be set higher since consumers have greater purchasing power. Additionally, we also need to consider whether there are other policies to mitigate the effects on equity. For example, higher deductibles and co-insurance payments may be optimal if there are complementary policies like means-tested subsidies for low income consumers to offset the negative effect on equity.</p>													
	<table border="1"> <thead> <tr> <th>Level</th><th>Descriptor</th><th>Marks</th></tr> </thead> <tbody> <tr> <td>L2</td><td>Balanced answer that explains how deductibles and co-insurance corrects moral hazard and their limitations. Answer makes sufficient reference to the case material. Explanations are well-developed.</td><td>4-6</td></tr> <tr> <td>L1</td><td>Answer lacks balance (missing thesis or anti-thesis) or depth (explanations are underdeveloped) or reference to the case material.</td><td>1-3</td></tr> <tr> <td>E</td><td>A judgement of the use of deductibles and co-insurance based on the context.</td><td>1-2</td></tr> </tbody> </table>	Level	Descriptor	Marks	L2	Balanced answer that explains how deductibles and co-insurance corrects moral hazard and their limitations. Answer makes sufficient reference to the case material. Explanations are well-developed.	4-6	L1	Answer lacks balance (missing thesis or anti-thesis) or depth (explanations are underdeveloped) or reference to the case material.	1-3	E	A judgement of the use of deductibles and co-insurance based on the context.	1-2	
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<p>(e)</p> <p>With the use of the case material and your own knowledge, discuss whether the setting up of the Agency for Care Effectiveness (ACE) will help Singapore achieve its microeconomic aims.</p>	[10]
<p>Question analysis:</p> <p>Command word = “discuss whether” → Need 2 sides and an evaluative conclusion</p> <p>Content = “setting up of ACE will help Sg achieve micro aims” → Need to explain how ACE will result in efficiency and equity and how it may not (i.e., limitations of policy)</p> <p>Context = healthcare industry</p> <p>Introduction: Explain the market failure in the healthcare industry due to imperfect info</p> <p>The microeconomic aims are efficiency and equity. ACE is meant to combat the problem of “physician-induced demand”. Physician-induced demand causes both inefficiency and inequity. When patients have imperfect information, they may be persuaded by doctors to consume more care than necessary. This causes the demand for healthcare to be higher than it should be.</p> <p>Referring to the figure above, the demand for healthcare due to physician-induced demand is at $D(\text{imperfect info})$, which is higher than it would be if consumers had perfect info. As such, the market equilibrium would be at Q_e while the socially optimal quantity would be at Q_s. Since Q_e exceeds Q_s, there would be overconsumption of healthcare and hence a deadweight loss of the shaded area. Social welfare is not maximised and there is allocative inefficiency.</p> <p>Additionally, since the higher demand also causes the price of healthcare to be higher at P_e instead of P_s (Extract 5: physicians may charge a higher fee), it may also cause inequity as poor consumers who actually require the healthcare may be unable to afford it.</p> <p>Thesis: ACE will help achieve micro aims (efficiency and equity)</p> <p>ACE publishes drug guidances on how well the drugs work and their cost-effectiveness. As this information is made public, it helps to correct the imperfect information of consumers. As consumers would now have perfect information of whether the drugs work, the demand for healthcare should fall from $D(\text{imperfect info})$ to $D(\text{perfect info})$. This would cause the market</p>	

	<p>equilibrium to fall from Q_e to Q_s. Hence, overconsumption is corrected and the DWL is avoided. Thus, ACE helps to achieve efficiency.</p> <p>Additionally, since the fall in demand would also cause a fall in the price of healthcare from P_e to P_s, the healthcare would then become more affordable to the low income consumers who really need it. This also reduces inequity.</p> <p>Anti-thesis: ACE will not help achieve micro aims as it has limitations</p> <p>However, there are limitations to ACE. The drug guidances may have a limited effect for consumers who are fully covered by their insurance as they have little incentive to find out whether the treatments are really necessary since they are not paying for it. As such, the fall in demand may be limited.</p> <p>Additionally, it is also unlikely for consumers to question doctors as doctors are perceived to be the professionals.</p> <p>Finally, ACE may only have a limited reach. In the course of 2 years (2015 to 2017), it only released guidances for 11 drugs. There is still a great scope for physician-induced demand related to other drugs and treatments.</p> <p>Conclusion</p> <p>In conclusion, ACE may not be able to help Singapore achieve its microeconomic aims of efficiency and equity in the short run. This is because of the limited number of drug guidances released and the non-questioning attitudes of most patients. However, in the long run, the context in Singapore would change. As time passes, the number of drug guidances released would start accumulating, creating lesser and lesser space for physician-induced demand. Additionally, as the Singapore population becomes increasingly educated and vocal, more patients would be willing to challenge doctors based on the information released by ACE. As such, ACE would help Singapore achieve its microeconomic objectives in the long run.</p>																
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CSQ2: Globalisation and Deglobalisation

(a)	Explain how any two pieces of the data shown in the Figures and Table 1 show that the world is in a state of ‘deglobalisation’.	[2]
	<p>Any two of the three possible answers</p> <p>Figure 1: Fall in world trade as % of GDP means that there is a reduction in the flow of goods across borders (lower X and lower M) [1]</p> <p>Figure 2: Migrant stock increasing at decreasing rate → slowing labour flows [1]</p> <p>Table 1: Increase in non-tariff barriers → reduces M (of importing country) and X (of exporting country) = less flow of goods across borders [1]</p>	
(b)	Suggest another piece of information and explain how it would help determine whether the world is in a state of deglobalisation.	[2]
	<p>FDI as % of GDP over the same time period [1]. If FDI as % of GDP has been decreasing, then that would support the idea that the world is in a state of deglobalisation. Conversely, if it is increasing, then it would not support the idea that the world is in a state of deglobalisation. [1]</p> <p>Accept other possible measures of trade, capital flows, or labour flows. 1m for identification of indicator and 1m for explaining how it would show whether there is deglobalisation.</p>	
(c)	Using the case material from Extract 6,	
(i)	Explain a benefit of globalisation	[2]
	<p>From Extract 6, “Globalisation is credited with helping to increase the global standard of living by allowing populations in every country to consume more.”.</p> <p>This is because with more free trade under globalisation, more countries can benefit from the theory of comparative advantage where countries can mutually benefit when they specialise in producing the good in which they have a comparative advantage (lower opportunity cost) and trade. [1]</p> <p>The specialisation and trade allows the residents in the countries to consume beyond their PPCs, increasing their living standards. [1]</p> <p>1m for stating theory of CA 1m for linking to higher living standards (from consuming beyond PPC)</p>	
(ii)	Explain two reasons for the trend of deglobalisation.	[4]
	<p>From Extract 6, the two reasons are “job insecurity and stagnant wages”</p> <p>“job insecurity”: FDI outflows from developed economies to developing economies where labour is cheaper resulted in a fall in demand for labour in developed economies, causing increased unemployment and lower job security. [2]</p> <p>“stagnant wages”: Labour inflow from developed to developing economies caused an increase in supply of labour, which depresses wages. This offsets any existing wage gains such that wages remain stagnant. [2]</p> <p>Accept other links from globalisation to “job insecurity and stagnant wages”. For each link, 2nd mark only awarded if there is economic analysis.</p>	

(d)	Explain how the tariffs imposed by President Trump would be ‘an act of self-harm on American households’.	[2]
	<p>For households: tariffs on finished consumer goods → increase in price of imports → fall in real disposable income → reduction in mat SOL [2]</p> <p>Accept all reasonable links from protectionism to negative effect on households. 2nd mark only awarded if there is economic analysis that shows the effect on consumers (effect on mat SOL or consumer surplus).</p>	
(e)	Discuss whether producers of different goods in the US will experience net benefit from President Trump’s tariffs (Extract 7).	[8]
	<p>Question analysis: Command word = “discuss whether” → Need 2 sides and an evaluative conclusion Content = “producers of different goods will experience net benefits” → Need to explain how producers of different goods will experience benefits and costs from the tariffs Context = US</p> <p>Introduction The benefits and costs of Trump’s tariffs on producers can be analysed in terms of the impact on the producers’ profits. The producers in US include producers of electronics, sneakers, iron, steel, and cars.</p> <p>Thesis: Producers would benefit from the tariffs Trump’s tariffs on electronics, sneakers, iron, and steel would cause the prices of these imports to increase. This would increase the demand for substitutes produced in the US. The increase in demand would then lead to an increase in both price and quantity sold of such US products, which would lead to an increase in TR. Assuming the increase in TR exceeds the increase in TC as firms increase production, the US producers of electronics, sneakers, iron and steel would enjoy an increase in profits.</p> <p>Anti-thesis: Producers would incur costs due to the tariffs However, producers may suffer a cost too. For US carmakers, the tariffs would cause an increase in price of imported and domestically-produced steel (explained in the paragraph above), which would increase their cost of production. This would cause a reduction in profits. A similar argument would apply to US producers that rely on importing semi-finished products from China.</p> <p>Additionally, producers may also suffer a fall in demand for their products when China retaliates against Trump’s tariffs. This may be done through retaliatory tariffs or boycotts of U.S. goods or throttling the flow of students and tourists to the U.S. The fall in demand for goods produced by US producers would then cause a reduction in price and quantity and hence total revenue of US producers. This would cause a fall in the profits of US producers. For example, a reduction in tourists from China would cause a fall in demand for US souvenir producers.</p> <p>Conclusion:</p>	

	<p>In conclusion, whether the producers would enjoy net benefits from Trump's tariffs would depend on the specific context of the industry in terms of how close it is as a substitute to the imports that tariffs have been imposed on, how dependent it is on imported raw materials and whether these raw materials are subjected to the tariffs, and how vulnerable the industry is to retaliation from China. For the car industry, it is likely to suffer net costs since Chinese cars are poor substitutes to US made cars in US so there would not be a significant increase in demand from the tariffs; it is highly reliant on imported steel and hence would experience a large increase in cost; and it is a prime target for retaliation given the high volume of US car exports to China. For other industries, more information would be required for a judgement to be made.</p> <table border="1"> <thead> <tr> <th>Level</th><th>Descriptor</th><th>Marks</th></tr> </thead> <tbody> <tr> <td>L2</td><td>Balanced answer that explains the benefits and costs of Trump's tariffs on different US producers. Explanations make good use of economic analysis. Max 4 for an answer that only considers benefits and costs in terms of revenue or cost. Max 4 if different producers are not used as examples (i.e., a purely theoretical answer).</td><td>4-6</td></tr> <tr> <td>L1</td><td>Answer lacks balance (missing thesis or anti-thesis) or depth (explanations are underdeveloped) or both.</td><td>1-3</td></tr> <tr> <td>E</td><td>A judgement of whether producers will enjoy net benefits based on the context.</td><td>1-2</td></tr> </tbody> </table>	Level	Descriptor	Marks	L2	Balanced answer that explains the benefits and costs of Trump's tariffs on different US producers. Explanations make good use of economic analysis. Max 4 for an answer that only considers benefits and costs in terms of revenue or cost. Max 4 if different producers are not used as examples (i.e., a purely theoretical answer).	4-6	L1	Answer lacks balance (missing thesis or anti-thesis) or depth (explanations are underdeveloped) or both.	1-3	E	A judgement of whether producers will enjoy net benefits based on the context.	1-2	
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(f)	With reference to the case material, discuss the factors that determine whether a country would be more successful in achieving growth through an inward- or outward-looking strategy in today's world.	[10]												
	<p>Question analysis: Command word = "discuss" → Need evaluation Content = "the factors..." → Need to explain the factors that would determine whether inward- or outward- looking strategies would yield greater success Context = today's world</p> <p><u>Introduction: Explain how both inward-looking strategy and outward-looking strategy achieves growth</u> An inward-looking looking strategy refers to an import-substitution strategy. In this strategy, countries would impose protectionist measures such as tariffs to discourage imports. For example, tariffs increase the price of imports and encourages domestic consumers to switch to purchasing domestically-produced goods. The fall in M causes a rise in X-M and hence an increase in AD. This then results in growth through the multiplier process.</p> <p>On the other hand, an outward-looking strategy would involve signing FTAs and incentivising inward-FDI. FTAs would result in a reduction in barriers to both exports and imports, causing both X and M to increase. Assuming the increase in X outweighs the increase in M, X-M would rise. This would cause AD to increase, achieving growth as NY increases via the multiplier effect. Additionally, incentives such as tax rebates given to MNCs would cause an inflow of FDI. The inflow of FDI also increases AD through the I component. The technology and skill transfers from the FDI also increase productivity,</p>													

	<p>causing the AS curve to shift outwards as more output can be produced with the same amount of input, and as the cost of production decreases as the same output can be produced with lesser input. The increase in both AD and AS lead to economic growth.</p> <p><u>Factor 1: Explain how size of domestic market affects the effectiveness of inward and outward strategies</u></p> <p>The size of the domestic market affects how effective inward and outward strategies would be. A larger domestic market would make inward-looking strategies more effective. This is because a larger domestic market would mean that using domestic consumption to drive AD could still result in a high level of NY. For an economy with a small domestic market, however, relying on domestic C to drive AD would result in a low level of AD and hence NY. As such, a large domestic economy would make inward-looking strategies more effective while a small domestic economy would it less effective.</p> <p>Additionally, with a large domestic market (i.e., high domestic demand), even with many domestic producers, each producer can still reap IEOS such that goods can be produced at a low cost while maintaining a high level of competition. This prevents x-inefficiency. Hence, AS can be at a high level due to the high level of productivity. If the domestic market is small, then there would either be only a few firms reaping IEOS or many firms competing but each firm reaping limited IEOS. The former would result in x-inefficiency due to a lack of competition while the latter would result in a high average cost of production due to a lack of reaping IEOS. Either way, productivity would not be as high and the AS would not be as high. Thus, a large domestic market causes inward-looking strategies to be more effective while a small domestic market causes it to be less effective.</p> <p><u>Factor 2: Explain how political climate affects the effectiveness of inward and outward strategies</u></p> <p>The political climate also affects the effectiveness of inward- and outward-looking strategies. Outward-looking strategies involve signing FTAs and encouraging capital flows. However, in today's world where there is a strong backlash against globalisation, it is more difficult to employ outward-looking strategies as governments are under political pressure to protect domestic industries.</p> <p><u>Factor 3: Explain how level of technology in the country affects the effectiveness of inward and outward strategies</u></p> <p>Finally, the level of technology affects the effectiveness of inward and outward strategies. Outward strategy involves the transfer of technology through FDI inflows. However, if the country is an existing technological leader, there may be very little such technological transfer. This would reduce the effectiveness of an outward-looking strategy.</p> <p><u>Conclusion:</u></p> <p>In conclusion, although the strong anti-globalisation sentiments in today's world seems to play a large part in determining the effectiveness of inward- and outward-looking strategies by making outward-looking strategies ineffective, it should be noted that the size of the domestic economy may still be the most important factor. This is because for economies with small domestic markets, even with an externally hostile environment, import substitution still won't allow for growth. Anti-globalisation sentiments make outward-looking strategies harder but the size of the economy makes</p>	
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		<p>inward-looking strategies impossible. As such, the most important factor is still the size of the economy.</p> <table border="1"> <thead> <tr> <th>Level</th><th>Descriptor</th><th>Marks</th></tr> </thead> <tbody> <tr> <td>L2</td><td> Answer explains how inward-looking and outward-looking strategies lead to growth and the factors that determine how effective these strategies are. Explanations make good use of economic analysis. Max 5 for an answer that does not include how the strategies lead to growth. </td><td>5-7</td></tr> <tr> <td>L1</td><td>Answer lacks scope (did not explain the factors determining the effectiveness) or depth (explanations are underdeveloped) or both.</td><td>1-4</td></tr> <tr> <td>E2</td><td>An explained judgement of which factor is most important.</td><td>2-3</td></tr> <tr> <td>E1</td><td>An unexplained judgement.</td><td>1</td></tr> </tbody> </table>	Level	Descriptor	Marks	L2	Answer explains how inward-looking and outward-looking strategies lead to growth and the factors that determine how effective these strategies are. Explanations make good use of economic analysis. Max 5 for an answer that does not include how the strategies lead to growth.	5-7	L1	Answer lacks scope (did not explain the factors determining the effectiveness) or depth (explanations are underdeveloped) or both.	1-4	E2	An explained judgement of which factor is most important.	2-3	E1	An unexplained judgement.	1	
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2018 Preliminary Exams H2 Economics Paper 2 Microeconomics Suggested Answers

1. The price of water in Singapore will be increased by 30%. Rising costs of resources and the use of more complex development approaches have exerted upward pressure on the costs of producing and delivering water.

Source: Minister for the Environment and Water Resources Masagos Zulkifli, 2017

Discuss the demand and supply factors that determine the price of water and **assess** which is the most important factor. [25]

Question Requirement:

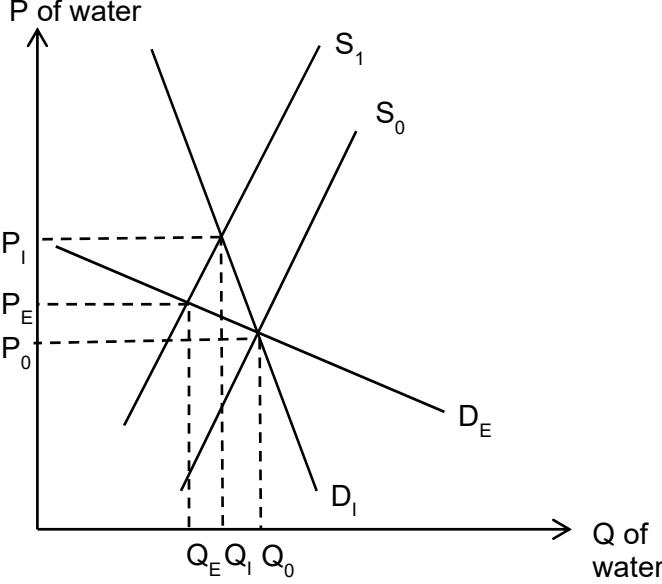
Command word: Discuss

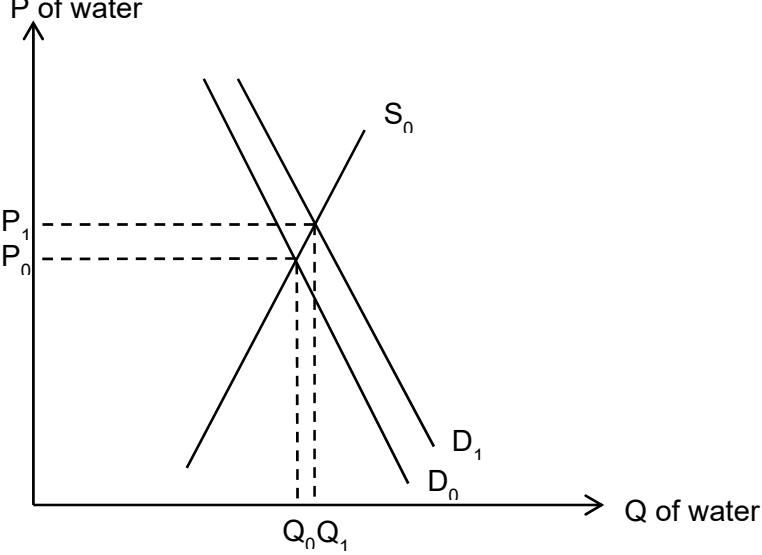
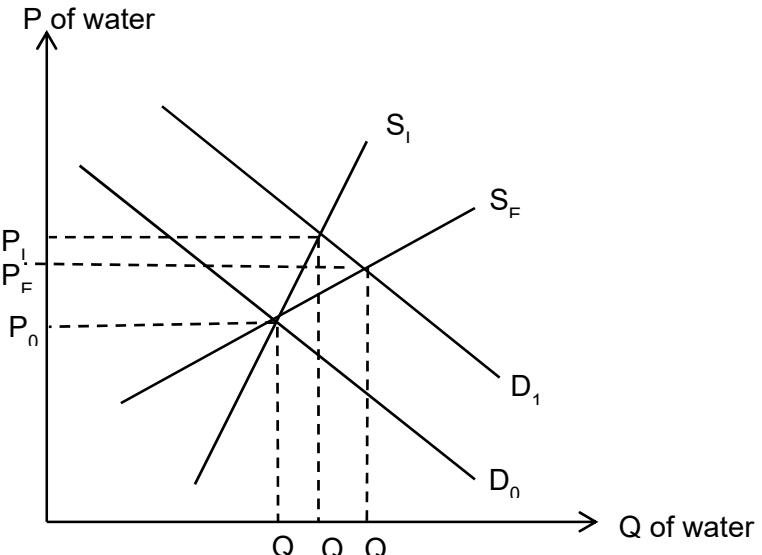
Concept: Demand, supply and relevant elasticities concept

Context: Singapore

Explain why price of water increased by a large extent due to demand and supply factors and the relevant elasticities concept. Conclude which factor is the most important factor contributing to the large increase in price of water.

Requirement	Suggested Answer
Introduction: State the variables and market to be analysed as well as the demand and supply factors.	The price of water in the water market is affected by the increase in cost of production of water, increase in income and increase in Singapore's population size. The extent of large increase in price of water is determined by the price elasticity of demand, income elasticity of demand and price elasticity of supply.
Body 1: Analyse how increase in COP affects price of water	<p>As mentioned in the preamble by the Minister for the Environment and Water Resources, there is an increase in cost of producing water due to more complex ways of producing water. With an increase in cost of production, producers find it less profitable to produce water, hence supply of water falls, leading to an increase in price and a fall in quantity.</p> <p>To find out the extent of increase of price of water, we need to look at the Price Elasticity of Demand (PED). PED of water measures the degree of responsiveness of a change in quantity demanded of water due to a change in price of water, ceteris paribus.</p> <p>Given that water has a high degree of necessity as households require water in their daily activities and certain industries such as the wafer fabrication industries require the use of water in its production process, PED of water is price inelastic. Hence, an increase in price of water leads to a less than proportionate fall in the quantity demanded for water.</p>

Requirement	Suggested Answer
	 <p data-bbox="620 871 1203 905">Figure 1: Impact of increase in COP of water</p> <p data-bbox="450 934 1368 1073">As seen in the diagram above, the original price is at P_0. When supply falls from S_0 to S_1, given the price inelastic demand curve, D_I, price has increased by a larger extent to P_I as compared to the price elastic demand curve, D_E.</p> <p data-bbox="450 1102 1368 1208">Since price increased by a large extent due to the fall in supply and the price inelastic demand curve, this factor is likely to be important in explaining the large extent of the increase in price of water.</p>
Body 2: Analyse how increase in income affects price of water	<p data-bbox="450 1237 1368 1410">Another possible factor that could have caused an increase in price of water is the increase in income of households. Since there is an increase in income, purchasing power increases hence demand for water also increases. This leads to an increase in price and quantity of water.</p> <p data-bbox="450 1439 1368 1578">In order to determine the extent of increase in price of water, we will need to look at the Income Elasticity of Demand (YED). YED of water measures the degree of responsiveness of the change in demand of water due to a change in income, ceteris paribus.</p> <p data-bbox="450 1608 1368 1814">Given that water is a normal necessity, since water is required for many daily activities, YED is positive and between 0 and 1. Thus, an increase in income will lead to an increase in demand for water by a small extent. This can be seen in the figure below where demand increases from D_0 to D_1. Hence price of water increased by a small extent from P_0 to P_1.</p>

Requirement	Suggested Answer
	 <p style="text-align: center;">Figure 2: Impact of Increase in Income</p>
Body 3: Analyse how increase in population size affects the price of water	<p>Since price of water increased only by a small extent, it is likely that the rise in income is not as important in explaining the large increase in price of water.</p>
	<p>Singapore's population size is also expected to increase. Hence this will increase the demand for water. Thus, price and quantity of water will increase.</p> <p>The extent to which price of water will increase depends on the Price Elasticity of Supply (PES). PES of water measures the degree of responsiveness of a change in quantity supplied of water due to a change in price of water, ceteris paribus. Since water production process is complex and the level of water available is declining due to the drying up of Malaysian reservoirs (one of our 4 national taps), PES of water is likely to be price inelastic. Hence an increase in price of water leads to a less than proportionate increase in quantity supplied of water.</p>  <p style="text-align: center;">Figure 3: Impact of increase in population size</p>

Requirement	Suggested Answer
	<p>As seen in the diagram above, the original price is at P_0. When demand increases from D_0 to D_1, given the price inelastic supply curve, S_i, price has increased by a larger extent to P_i as compared to the price elastic supply curve, S_e.</p> <p>Since price increased by a large extent due to the increase in demand and the price inelastic supply curve, this factor is likely to be important in explaining the large extent of the increase in price of water.</p>
Conclusion Explain which is the most important factor which led to the increase in price of water by a large extent.	<p>The price of water is going to increase by a large extent. This is likely due to the increase in cost of production of water. This is so as the increase in demand of water might be mitigated by campaigns by the government as well as the installation of water-saving showerheads, washing machines and taps that are adopted by more households. Furthermore, for businesses, as they want to maximise profits, they will put in place water-saving measures to reduce their cost of production. Thus, even though demand for water may increase, it is unlikely going to increase by a large extent.</p> <p>However, as the reservoirs in Malaysia are drying up due to inclement weather and the water agreement in Malaysia coming to an end soon, Singapore is urgently trying to find methods of producing water that requires lesser reliance on Malaysia. These methods of production likely require new and improved technology, e.g. improving the process of NEWater. Hence, the increase in cost of production coupled with the price inelastic demand curve and the price inelastic supply curve is a more important factor resulting in a large increase in the price of water.</p>

Mark Scheme

Level	Descriptors	Mark Range
L3	<p>High L3 (18 – 20)</p> <p>For a clear explanation of how each demand and supply factor results in an increase in price of water using demand and supply analysis. The extent of increase in price of water is explained using relevant elasticity concepts for each demand and supply factor. Answer has no misconceptions and errors and it explains the importance of each factor in resulting in the increase in prices all the time.</p> <p>Low L3 (15 – 17)</p> <p>For a clear explanation of how each demand and supply factor results in an increase in price of water using demand and supply analysis. The extent of increase in price of water is explained using relevant elasticity concepts for some demand and supply factors. Answer has minor misconceptions and errors and it attempts to explain the importance of each factor in resulting in the increase in prices most of the time.</p>	15 – 20
L2	High L2 (13 – 14)	10 – 14

	<p>For an underdeveloped explanation of how each demand and supply factor results in an increase in price of water using demand and supply analysis. There may be some missing gaps in the explanation. There is a lack of scope – either explanation of demand OR supply factors, or only 2 factors are discussed. Answer used elasticity concepts to explain the extent of increase in price of water, however, the elasticity concepts used are limited in scope (only 2 elasticity concepts used). Answer has minor misconceptions and errors and it attempts to explain the importance of each factor in resulting in the increase in prices some times.</p> <p>Low L2 (10 – 12)</p> <p>For an underdeveloped explanation of how each demand and supply factor results in an increase in price of water using demand and supply analysis. There may be some missing gaps in the explanation. There is a lack of scope – either explanation of demand OR supply factors, or only 2 factors are discussed. Answer used only 1 relevant elasticity concepts to explain the extent of increase in price of water. Answer has minor misconceptions and errors and it did not explain the importance of each factor in resulting in the increase in prices.</p>	
L1	<p>High L1 (5 – 9)</p> <p>Answer identifies the demand and supply factors and attempted to use demand and supply analysis to explain the impact of each factor on the increase in price of water. Answer may not have used elasticity concepts to explain the increase in extent of price. However, answer may have combined the effects of change in demand and supply to explain the increase in price. Or, in using the elasticity concepts, there are major misconceptions and errors. Answer did not explain the importance of each factor in resulting in the increase in price of water.</p> <p>Max 5m for well explained demand and supply factors.</p> <p>Low L1 (1 – 4)</p> <p>Answer identified the demand and supply factors but there are large gaps in terms of using demand and supply analysis and the relevant elasticity concept in explaining the large extent of increase in price of water.</p>	1 – 9
E3	Evaluation with sound justification, synthesising economic arguments in a summative conclusion, where a comparison of the importance of each factor was made based on the Singapore context.	4 – 5
E2	Evaluation with limited justification. Some attempt at comparing the importance of each factor, but comparison was not based on the Singapore context.	2 – 3
E1	Evaluation with no justification. Stating which factor is most important.	1

2. In 2016, Australia-based TPG Telecom won the rights to become Singapore's fourth telco operator after the three incumbents — Singtel, Starhub and M1 — had the market locked up for 15 years. Players such as Colt (a United Kingdom Telecom) are also looking to enter the market.

Source: CNBC, 17 July 2017

- (a) **Explain how firms** in the above market rationally make price and output decisions. [10]
 (b) **Discuss how** the entry of new firms will affect existing telco operators and consumers. [15]

Suggested answer for part (a)

Question Requirement:

Command word → Explain how

Concept → Cost revenue framework, price rigidity (oligopoly)

Context → telecommunication market in Singapore

Explain how firms in the telecommunication market in Singapore, which is an oligopoly industry, make price and output decisions in the short run and long run.

Requirement	Suggested Answer
Introduction: Explain the market structure telecommunication firms are in	The firms in the telecommunications industry in Singapore is considered to be in an oligopoly market structure. This is because there are a few firms with a large market share. Given that there are high set-up costs involved in terms of setting up of the infrastructure for the wireless and 4G mobile data network, there is also high barriers to entry to the telecommunication industry. Thus, the demand for each firm in the telecommunication industry is likely to be high and the demand curve is likely to be price inelastic.
Body 1: Explain why telco firm sets price or output where $MC = MR$	The demand curve for an oligopolist is also its Average Revenue (AR) curve and its Marginal Revenue curve will lie below its AR curve. A rational firm will make pricing and output decisions based on comparing the MR and MC of producing one more unit of output.

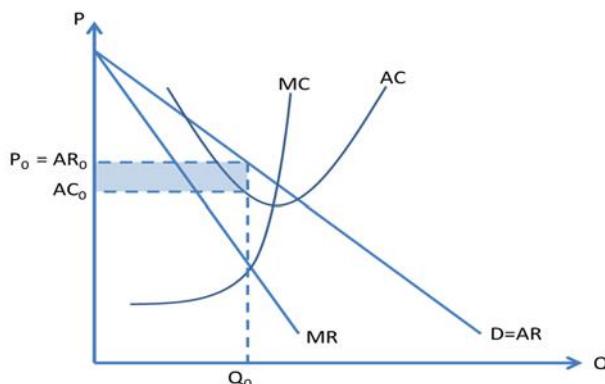


Figure 1: Price and output of a profit-maximising oligopoly

With reference to Figure 1, profit is maximised when Marginal Cost (MC) = Marginal Revenue (MR) at P_0 and Q_0 . At any quantity less than Q_0 , MC is less than MR. Thus, producing an extra unit of output adds more to revenue than to cost. Total profit will increase if more is produced. As long as MR exceeds MC, profits can be increased by

Requirement	Suggested Answer
	increasing production. At any quantity more than Q_0 , MC is more than MR. Thus, producing one less unit of output will create more cost savings than foregone revenue. Total profits will increase if less is produced. As long as MC exceeds MR, profits can be increased by decreasing production. Hence, P_0 and Q_0 where $MC = MR$ is where profit is maximised.
Body 2: Explain why telco firms do not change prices once prices are set.	The telcos in Singapore are competitive oligopolies. They have a distinct pricing behaviour – once a price is set, competitive oligopolists do not change them. That means that the prices are rigid. Once a price has been set, oligopolists do not change their prices because of the rival consciousness brought about by mutual interdependence. For example, if Singtel considers reducing its price, it knows that its rivals (Starhub, M1 and TPG Telecom) will also react by reducing their prices. Thus, Singtel's reduction in price will only lead to a less than proportionate increase in quantity demanded of its product as few customers would switch over from its rivals. This would cause its total revenue to decrease. Hence, Singtel would not decide to decrease its price. If Singtel considers increasing its price, it knows that its rivals will maintain their prices in response. Thus, its increase in price will lead to a more than proportionate decrease in quantity demanded of its product as many of its customers would switch over to its rivals. This would also cause Singtel's total revenue to decrease. Hence, Singtel would also decide not to increase its price. Since Singtel would not increase or decrease its price, there will be price rigidity. Hence, prices will be more stable in an oligopoly.
Body 3: Explain price and output of telco in the long run.	In the long run, since oligopolies have high barriers to entry that prevents new firms from entering, they are able to maintain the high prices and low output level.
Conclusion	Telecommunication firms who profit-maximise will set a high price where $MC = MR$. Once the price is set, it does not change due to price rigidity. In both the short run and the long run, they will earn supernormal profits due to the high barriers to entry.

Mark Scheme

Level	Descriptors	Mark Range
L3	For a clear explanation of how an oligopolist sets price or output using economic framework in both the short run and long run. Answer explains price rigidity clearly.	8 – 10
L2	For an underdeveloped explanation of how an oligopolist sets price or output using the cost revenue framework. Answer attempts to explain	5 – 7

	<p>price rigidity and short run and long run price and quantity.</p> <p>Max 5m for explaining price rigidity only.</p> <p>Max 6m for explaining profit-maximising price and output only.</p>	
L1	For an answer that shows some knowledge of an oligopolist and attempts to explain how it sets price or output.	1 – 4

Suggested answer for part (b)

Question Requirement:

Command word: Discuss how → Put forward both sides of a case before coming to a conclusion

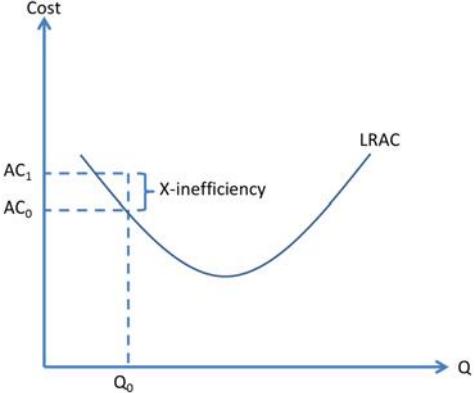
Concept: Profits of incumbent firms, performance of oligopolist affecting the firms and consumers

Context: Singapore's telecommunication industry

Requirement	Suggested Answer
Introduction: State the relevant performance indicators	The entry on new firms will affect existing telco operators' profits and hence productive efficiency. Since telco operators' profits may change, it will also affect consumers in terms of dynamic efficiency, variety and equity.
Body 1: Explain how profits of incumbent firms will be negatively impacted due to a fall in demand	<p>With the entrance of a new firm who is likely to be selling the same products (mobile data plans) as the incumbent firms, the demand for the incumbent firm's mobile data plans will fall. With the increase in number of substitutes, the demand for the incumbent firm's product will also become more price elastic.</p>

Figure 2: Impact of entrance of new firm

As seen in Fig. 2 above, entrance of new firm has led to the fall in AR and MR curves from AR_1 and MR_1 to AR_2 and MR_2 respectively. At the original output of Q_1 , MC is now higher than the new MR that is illustrated by the new MR_2 curve. There is a fall in profits. Hence, a profit-maximising firm will be incentivised to reduce output towards Q_2 , where $MR = MC$ again, where profits are maximised. Given the fall in

Requirement	Suggested Answer
	<p>AR curve, at the new profit-maximising output Q2, price of the firm's product has fallen to P2, and profit has fallen from $[(P_1 - AC_1) \times Q_1]$ to $[(P_2 - AC_2) \times Q_2]$.</p> <p>Evaluation:</p> <p>However, given that the incumbent firms have a large market share and mobile data plans usually have a contract of 2 years, the fall in demand may be by a small extent since consumers may not be willing to switch to the new entrant's products before the end of their contract as consumers may be penalised for doing so. Thus, the fall in profits may be by a small extent.</p>
Body 2: Explain how the incumbent firms will be more productive efficient and hence may enjoy some increase in profit	<p>With the possible fall in profits, incumbent firms may try to prevent the fall in profits by reducing costs and cutting wasteful spending. Before the entrance of the new firm, due to the high barriers to entry, incumbent firms may have lax cost controls such as overstaffing and excessive spending on unnecessary equipment and expensive buildings. Thus, they may not be producing on the LRAC (i.e., they may be x-inefficient) as illustrated below where the oligopolist produces Q_0 at an actual average cost of AC_1 when the lowest possible average cost is AC_0.</p>  <p>Figure 3: X-inefficiency in an oligopoly</p> <p>However, due to the entrance of the new firm which may erode their profits, incumbent firms will cut on wasteful spending. Hence the average cost will be at AC_0 instead. With a fall in AC, assuming that AR decreases by a lesser extent, profits may still increase.</p>
Body 3: Explain how consumers benefit from decrease in price and improved equity.	<p>Due to the entrance of the new firm, price of products fell from P_1 to P_2. Thus, consumers enjoy a fall in price and hence increase in consumer surplus.</p> <p>As profits of incumbent firms fall, lesser supernormal profits are made as explained earlier. Thus, this means that lesser profits are made at the expense of the consumers, hence equity is improved.</p>
Body 4:	<p>The entrance of new firms may also incentivise existing firms to further differentiate their product. For example, SingTel and Starhub may offer</p>

Requirement	Suggested Answer
Explain how consumers benefit from increased variety	<p>new plans catering to more specific groups of consumers. This increases the variety of telecommunication services and benefits consumers.</p>
Body 5: Explain how consumers may not experience an increase in variety	<p>However, product differentiation may take time. This is especially so if the differentiation takes place in the form of faster wireless connection or wireless connection that has greater coverage across Singapore. Hence, the effects of an increased in variety may not be evident in the short run.</p> <p>Additionally, the reduction in profit of firms may make them less able to carry out product differentiation. This would also prevent the increase in variety.</p>
Conclusion Is the impact positive or negative? What does it depend on?	<p>In conclusion, for consumers, the impact of the entrance of a new firm seems to be largely positive. This is because the reduction in price and the strategies the incumbent firms may undertake to maintain its market share are generally beneficial to the consumers. The only question is whether the benefits are to a large or small extent, which will depend on the PED of telecommunication services and how the incumbent firms react.</p> <p>However, for the incumbent firms, whether the impact will be positive or negative depends on whether the incumbent firms are able to successfully reduce their cost and increase their revenue through the strategies they undertake. If they are able to do so successfully, then, they will more likely experience a more positive impact.</p>

Mark Scheme

Level	Descriptors	Mark Range
L3	Answer clearly explains the positive and negative impacts of a new entrant into the telecommunication industry on both existing producers and consumers using economic analysis.	8 – 10
L2	<p>For a clear explanation on the positive OR negative impacts of a new entrant into the telecommunication industry on either the existing producers OR consumers using the cost revenue analysis.</p> <p>OR</p> <p>For an answer that explains the positive and negative impacts of a new entrant into the telecommunication industry on both existing producers and consumers using the cost revenue analysis. However, there are some gaps in the analysis.</p>	5 – 7
L1	For a descriptive answer of the positive and negative impact on the existing firms and consumers. Economic analysis is scant and/or has	1 – 4

	major gaps and errors.	
E3	Evaluation with sound justification, synthesising economic arguments in a summative conclusion in the context of a telecommunication industry.	4 – 5
E2	Evaluation with limited justification	2 – 3
E1	Evaluation with no justification	1

3. Prior to 2013, entrance to national museums and heritage institutions required admission fees. However, in 2013, the Singapore government announced free admission fees for all Singaporeans and Singapore Permanent Residents to national museums and heritage institutions.

- (a) **Explain why** the Singapore government changed its approach in the intervention in the market for national museums. [10]
- (b) **Assess** the relative effectiveness of the current approach to encourage the consumption of the arts and culture in Singapore. [15]

Suggested answer for part (a)

Question Requirement:

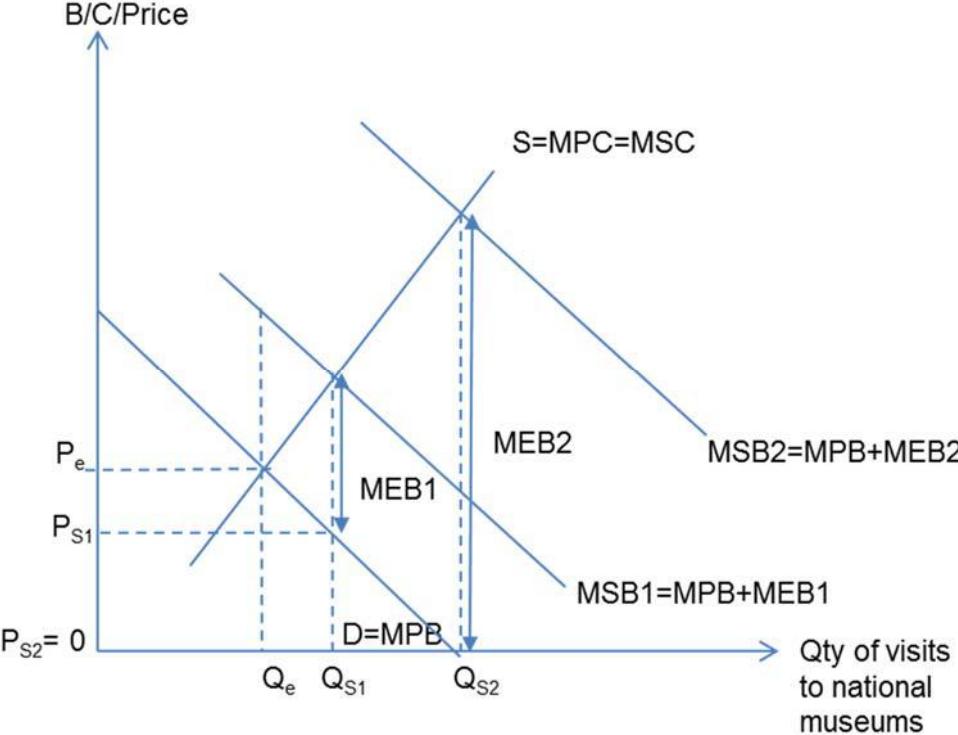
Command word → Explain why

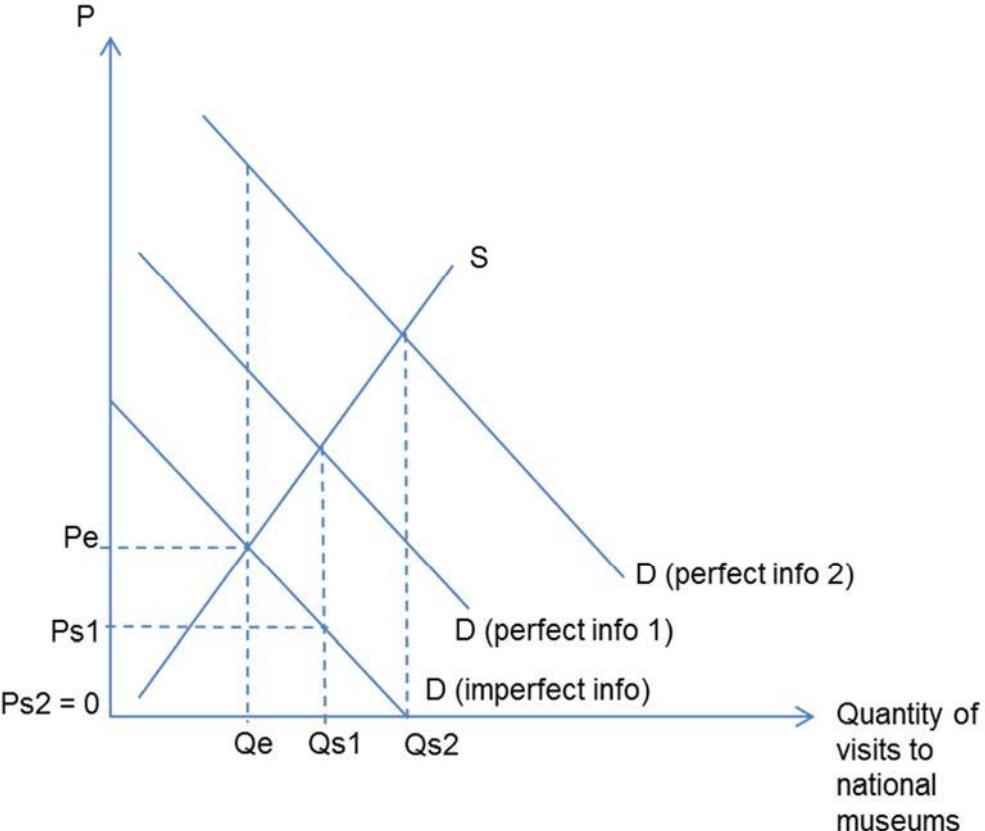
Concept → sources of market failure (in particular, the extent of change in source of market failure)

Context → National museums in Singapore

Explain why government subsidises the market for national museums. Explain why government now fully subsidises the market for national museums.

Requirement	Suggested Answer
Introduction: State the reasons for government to increase subsidies for entry ticket to national museums	National museums are considered a merit good by the government. It is a good where the government believes is good for the people but there is an under-consumption of visits to national museums because of positive externalities, underestimation of true private benefits and inequity. The Singapore government changed its approach and full subsidised the entrance fees to national museums because of an increase in positive externalities generated, an increase in underestimation of true private benefits and an increase in inequity.
Body 1: Explain that government is giving full subsidies because of an increase in the MEB such that the social optimal price is 0.	Prior to 2013, Singaporeans and Singapore Permanent Residents pay a lower entry fee into national museums than foreigners. This is due to the existence of positive externalities in the market for national museums. Positive externalities are external benefits enjoyed by someone other than the consumers or producers of the product, for which no compensation occurs. Museums help to reinforce the sense of belonging to national identity which promotes national bonding. This helps to strengthen the social fabric and lead to more harmonious living which benefits almost all segments of the population, including those who do not partake in the consumption of museums. In figure 1 below, Marginal Private Benefit (MPB) refers to the additional enjoyment to the consumer from an additional visit to the national museum. Marginal Private Cost (MPC) refers to the additional cost visiting the national museum. The Singapore government has changed its approach to full subsidies as the

Requirement	Suggested Answer
	<p>marginal external benefit has increased such that the social optimal price is now zero.</p>  <p>Figure 1: Positive Externalities in the market for national museums</p> <p>Since the individual consumer and producer will only consider the private benefits and costs, he will consume and produce up to the point where $MPB = MPC$, at Q_e. The external benefit generated (MEB_1) creates a divergence between MPB and MSB_1. Assuming there is no external costs incurred, $MPC = MSC$. Hence, at the market equilibrium output, Q_e, MSB_1 is greater than MSC, meaning that the society values an additional visit to the national museum more than the additional costs of it. The socially efficient level of output should be where $MSB_1 = MSC$, at output Q_{s1} and the social optimal price is at P_{s1}. Since Q_e is greater than Q_{s1}, there is under-consumption of visits to national museums. There is deadweight loss incurred to the society.</p> <p>However, due to the increase in marginal external benefit from MEB_1 to MEB_2, the social optimal price is now at $P_{s2} = 0$. Hence, the government provides full subsidy such that Singaporeans and Singapore Permanent Residents do not need to pay entrance fees to national museums.</p>
Body 2: Explain that government is giving full subsidies because of an increase in private benefits.	<p>Prior to 2013, in the market for national museums, there is a misunderstanding of true private benefits by Singaporeans and Singapore Permanent Residents. They may be short term utility maximisers and hence ignore the long term private benefits of visiting national museums such as broadening one's mind and boosting creativity. As such, the demand for visits to national museums is at D imperfect info , where equilibrium quantity is at Q_{e1} and equilibrium price is at P_{e1}. However, if they had perfect information, the demand will be at D perfect info where the social optimal quantity is at Q_{s1} and the social optimal price is at P_{s1}. Since Q_{s1} is lesser than Q_{e1}, there is under-consumption of visits to the national museums.</p>

Requirement	Suggested Answer
	 <p>Figure 2: Underestimating true private benefits of visiting national museums</p> <p>After 2013, the extent of true private benefits may have increased. Hence, the demand for national museum should now be at D perfect info 2. The social optimal quantity is at Q_{s2} and the social optimal price is at P_{s2} which is equal to zero. Thus the government decided to provide full subsidy such that Singaporeans and Singapore Permanent Residents do not need to pay for entry into national museums.</p>
Body 3: Explain that the government is giving full subsidies because of an increase in income inequality leading to higher inequity.	<p>Another reason for the change in intervention is due to the increase in income inequality due to inequity. Prior to 2013, there was inequity in the market for national museums. If we allow market forces to work, only those who are willing and able to pay to enter national museums will visit them. However, there are some people who may not be able to pay to enter national museums. Hence, the government provides subsidies to allow more people to be able to afford visiting the national museums.</p> <p>After 2013, the income inequality might have worsened, thus, there are more people who may not be willing and able to pay to visit national museums. Hence, to ensure that every Singaporean and Singapore Permanent Resident is able to visit the national museum, the government decides to provide free entrance to all national museums in Singapore.</p>

Mark Scheme

Level	Descriptors	Mark Range
L3	For a clear explanation of the reasons (at least two) for the change in government intervention in terms of how the market failure has worsened such that free provision is now optimal. Students must explain that there is an increase in the extent of market failure in the market for national museums	8 – 10
L2	For a clear explanation of only 1 reason for the change in government intervention in terms of how the market failure has worsened such that free provision is now optimal. Students may not have clearly explained that there is an increase in the extent of market failure and may have simply explained the reasons for market failure in the market for national museums. (Note: max 6 marks for such answers)	5 – 7
L1	For an answer that shows some knowledge of the reasons of market failure in the market of national museums.	1 – 4

Suggested answer for part (b)

Question Requirement:

Command word: Assess → Put forward both sides of a case before coming to a conclusion

Concept: Policies to increase consumption of arts and culture in Singapore and their limitations. One policy must be on full subsidy or free provision as this is given in the preamble as the current approach.

Context: Singapore's market for arts and culture

Requirement	Suggested Answer
Introduction : State the policies the government can adopt to correct market failure in the market for arts and culture.	In order to increase the consumption of arts and culture in Singapore, the government can provide entrance to national museums for free as well as educating the young on the benefits of their involvement in arts and culture.
Thesis 1: Explain how a full subsidy corrects the market failure in the market for arts and culture.	By providing a full subsidy which is equal to MEB2 to producers of arts and culture, their cost of production decreases and hence supply increases to S2. As such, the external benefits are now internalised. Where S2 intersects with demand, quantity increases to the social optimal output level, Qs2 hence correcting the market failure in the market for national museums.
Anti-thesis 1:	However, if the MEB is actually smaller at MEB1 instead of MEB2, there will be a case of over-consumption instead as the social optimal output level

Requirement	Suggested Answer
Explain the limitations of a full subsidy in Singapore's context	<p>should be at Qs1 as seen in Figure 3 above.</p> <p>In addition, given that Singapore is facing an aging population where healthcare needs are a rising concern and the infrastructure needs upgrading, there is high opportunity cost incurred in providing full subsidies to increase consumption of the culture and the arts.</p> <p>Furthermore, providing full subsidies may exacerbate inequity as all Singaporeans and Singapore Permanent Residents will be able to enter the museum whether they are able to afford the entry ticket or not.</p>
Thesis 2: Explain how educating the young on the benefits of participation in the arts and culture corrects market failure	<p>The government can also partner with schools and the community to educate the public on the benefits of art and culture education. For example, providing the young with exposure to the arts and culture through school organised museum visits, participating in heritage trails and taking part in hands-on art workshops. Through these, students may experience the benefits of such programmes for themselves. This may increase the demand curve from D imperfect info to D perfect info 2 in figure 2. Thus, the level of consumption is now at Qs2 which is the social optimal level. Hence, market failure is corrected.</p>
Anti-thesis 2: Explain limitations of educating the young on the benefits of participation in the arts and culture in correcting market failure	<p>However, we may not be able to see the immediate results of such a policy. Furthermore, parents may place more emphasis on academics or sports instead of the arts and culture. Thus, educating the parents on the benefits of the arts and culture is equally important as well.</p>
Conclusion	<p>The relative effectiveness of the policy depends on whether the policy solves the root cause of the issue. Providing free museum entry fees address the issue of positive externalities. It may work in the short run to increase visitor numbers. However, to sustain the increase, museum experience for visitors must be positive for them. In the long run, it is important to complement this policy with educating the public about arts and culture so that they see the benefits of consuming arts and culture.</p> <p>A bigger question will be whether the government is putting too much funds into the arts and culture sector in Singapore. Given that Singaporeans are becoming more affluent, they are likely to be well-travelled and hence more exposed to the arts and culture. At the same time, with the advancement of technology and extensive use of social media to publicise such cultural events, demand for arts and culture will increase even without the need for government intervention.</p>

Mark Scheme

Level	Descriptors	Mark Range
L3	Answer clearly explains how providing free entrance to museums and one other policy corrects market failure in the market for arts and culture and their limitations. There are examples given in the Singapore context.	8 – 10
L2	For a clear explanation on how providing free entrance to museums and one other policy corrects market failure in the market for arts and culture, without limitations OR For an underdeveloped answer that explains how providing free entrance to museums and one other policy corrects market failure in the market for arts and culture and their limitations. OR For a clear explanation on how ONE policy corrects the market failure and its limitations (max 6 marks)	5 – 7
L1	For a descriptive answer of how policies correct market failure.	1 – 4
E3	Evaluation with sound justification, synthesising economic arguments in a summative conclusion. Comparison of which policy works better must be evident.	4 – 5
E2	Evaluation with limited justification	2 – 3
E1	Evaluation with no justification	1

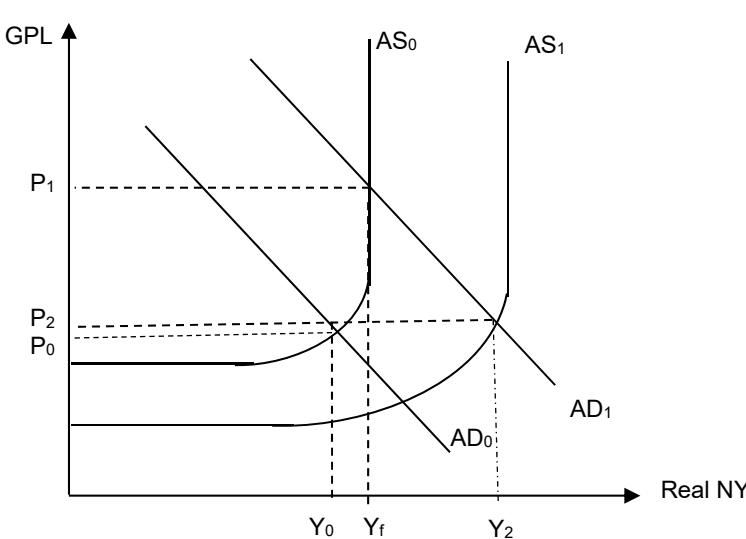
- 4** Improving productivity has taken on an added urgency as it affects wage growth and global competitiveness. As alternative ways of achieving growth— particularly growth induced by the influx of foreign workers— run out, a successful productivity campaign becomes ever more salient.

Discuss whether policies to improve labour productivity are the only way to maintain global competitiveness and sustain growth for Singapore.

[25]

Requirement	Suggested Answer
Question Requirement:	
Command word → Discuss	
Concept → labour productivity, global competitiveness, sustained growth	
Context → Singapore economy	
Outline	
<ul style="list-style-type: none"> • Intro: Define labour productivity, global competitiveness and sustained growth and briefly state how labour productivity may be improved – education & training • Thesis: Policies to improve labour productivity are the only way to maintain global competitiveness and sustain growth for Singapore • Anti-thesis 1: Policies to improve labour productivity are not the only way - limitations • Anti-thesis 2: Policies to improve labour productivity are not the only way - other policies available • Conclusion: Synthesise arguments on both sides and determine whether Singapore should only depend on raising labour productivity to achieve its aims. 	
Introduction: Define key economic concepts and give an overview of the essay	Labour productivity is defined as the output per man-hour. Global competitiveness refers to the ability to compete globally in terms of cheaper or better quality exports and being able to attract FDI. To achieve sustained economic growth, there must be both actual and potential growth. While raising labour productivity is crucial in maintaining global competitiveness and sustaining economic growth, there are limitations and trade-offs that could result. Besides, there are other policies that the Singapore government can implement to achieve these economic aims. These include, adopting a modest and gradual appreciation stance to mitigate inflation and the use of expansionary fiscal policy to promote economic growth.
Body 1: Thesis 1: Improving labour productivity helps to maintain global competitiveness	<u>Policies to improve labour productivity</u> An increase in labour productivity may be achieved through improving the quality of labour via training and upgrading of skills, increasing capital intensity through capital investments, as well as technological improvements or process innovations. Government may adopt supply-side policies like giving grants/subsidies for education & training, tax incentives/subsidies to encourage firms to upgrade existing physical capital & do R&D etc. For example, Workforce Singapore (WSG) provides a range of training programmes which aims to build up the foundational and industry-specific skills. Funding is also available to firms when they send their older low-skilled workers for training and individuals can use their SkillsFuture Credit to pay for training courses. In addition, there is the

Requirement	Suggested Answer
	<p>Productive Solutions Grant, which funds up to 70 per cent of qualifying costs for small and medium-sized enterprises seeking to adopt off-the-shelf technologies. With relevant & better skills, more sophisticated machineries and better production processes, workers would be able to produce more output per man hour, thereby increasing labour productivity.</p> <p><u>Improving labour productivity leads to cheaper exports</u></p> <p>In the long run, assuming that the rate of productivity growth exceeds the rate of wage growth, unit labour cost would fall, leading to a fall in COP. Hence SRAS increases and SRAS curve shifts downwards. The productive capacity of the economy also increases, leading to an increase in the LRAS, shifting the LRAS curve to the right. Hence the AS curve shifts from AS_0 to AS_1 as shown in the figure below. This results in a fall in GPL from P_0 to P_1, ceteris paribus.</p> <p>With a given quality of exports, this decrease in the GPL will improve export price competitiveness and hence global competitiveness.</p> <p><u>Improving labour productivity leads to inflow of FDI and increase global competitiveness</u></p> <p>Assuming the wage growth lags behind productivity growth, the lower unit cost due to raising productivity also makes Singapore more attractive to foreign investors as there is expectation of future increase in profits, thereby attracting more FDI. MNCs will also bring in technology improvement and lead to our exports becoming more competitive both in terms of price and quality.</p> <p><u>Improving labour productivity leads helps Singapore move up the value chain and increase global competitiveness of such goods</u></p> <p>With increasing globalization, Singapore has to develop new niche industries that are higher up the value chain to maintain export competitiveness. Improving labour productivity supports firms and attract MNCs to develop higher-value activities in Singapore as such industries like biomedical engineering and digital media which require specialised skills</p>

Requirement	Suggested Answer
	<p>set. Hence the country would be able to acquire comparative advantage in producing goods higher up in the value chain, hence maintaining global competitiveness.</p>
Body 2: Thesis 2: Raising labour productivity helps to sustain growth	<p><u>Improving labour productivity leads to both actual and potential growth</u></p> <p>As explained earlier, improved labour productivity leads to both an increase in SRAS and LRAS, shifting the AS curve to the right. The inflow of FDI also increases productive capacity (\uparrow in LRAS) and if they bring with them better technology/management practices etc., SRAS and LRAS increase and the AS curve shifts further to the right, leading to higher actual and potential economic growth.</p>
	<p>Also through more innovative production processes, quality of exports may increase, increasing the demand for them. Hence increasing export revenue and net exports, ceteris paribus. The increase in I and (X-M) increase AD and thus RNY via the multiplier process, achieving actual growth.</p> <p>As shown in the figure below, a persistent increase in AD from AD_0 to AD_1 without a corresponding increase in LRAS will only lead to demand-pull inflation as the general price level rises from P_0 to P_1 with no further rise in real national income after Y_f.</p>  <p>However, with improved labour productivity and potential growth takes place, AS curve shifts rightwards from AS_0 to AS_1, the general price level decreases from P_1 to P_2 and real national income increases from Y_f to Y_2. Thus with both actual growth and potential growth, non-inflationary sustained economic growth is achieved.</p>
Body 3: Anti-Thesis 1: Limitations of raising labour productivity in	<p><u>Difficult to change workers' mindset</u></p> <p>Policies to increase labour productivity growth takes time and the outcome is dependent on the aptitude and attitude of workers. The less educated or older workers may not have the ability to learn new skills and the more educated ones may not be receptive towards the need for re-training.</p>

Requirement	Suggested Answer
helping Singapore maintain global competitiveness and sustain economic growth (at least 1)	<p>Some may just be resistant to the idea of a job change. With an ageing population in Singapore, there could be many older workers who may be less receptive to training and retraining. Also, if the improvement in labour productivity is focused on low-skilled jobs, the extent of FDI inflow may not be substantial as Singapore, a knowledge-based economy, mainly attracts high-value added FDIs. However, with public campaigns advocating lifelong learning, workers' mindset might be changed over time. Hence such policies may only be more effective in the LR but not in the short run.</p>
	<p><u>May not solve the root cause of slow growth or inflation</u></p> <p>Achieving full employment level of NY requires that AD is sufficiently high to absorb the potential output produced. However, a policy focusing on raising labour productivity is a long term supply-side policy aimed primarily at shifting the LRAS and cannot effectively counter fluctuations in AD. If growth of AD does not keep pace with potential growth due to weak external demand, growth cannot be sustained. For example, falling world national income due to the Eurozone debt crisis caused a decline in trade and demand for Singapore's exports. As export revenue falls, there would be a drop in net exports. Since (X-M) constitutes 32% of Singapore's GDP, there would be a significant fall in AD and hence national income in Singapore. This would stifle economic growth in the short run. In this case, boosting labour productivity alone would not be enough to boost exports and attract FDI with weak business expectations.</p> <p>Global competitiveness may be eroded by imported inflation. As Singapore lacks natural resources; we are highly reliant on imports for both finished and semi-finished goods. Any global supply shocks and import price hikes may have a larger impact on cost of production compared to labour. In such a case, improving labour productivity will not be very effective in maintaining global competitiveness as imported FOPs may take up a large portion of production costs in Singapore. Thus, even though improving labour productivity can help to reduce cost of production, it cannot fully mitigate the effects of imported inflation. Thus, policies to improve labour productivity are not the only way to maintain global competitiveness and sustain economic growth. There is thus a need to use complementary policies such as the exchange rate policy.</p>
Body 4: Anti-Thesis 2: Other policies that can help to maintain global competitiveness and sustain growth	<p><u>Expansionary fiscal policy to achieve growth</u></p> <p>In order to achieve sustained growth, especially in periods of recession, expansionary fiscal policy should be used to increase AD. Reduction in personal income tax would stimulate consumer spending through an increase in disposable income and purchasing power. Reduction in corporate tax increases the after-tax profits and thus encourages investment, both local and foreign, and maintains global competitiveness. The increase in C, I and G will increase AD which in turn causes RNY to increase by multiple times through the multiplier process, achieving positive actual growth.</p> <p>This expansionary fiscal policy also has a supply-side effect due to capital accumulation from the infrastructure development. Hence increasing the</p>

Requirement	Suggested Answer
	<p>productive capacity and LRAS, achieving potential growth. With both increase in AD and LRAS, sustained economic growth is achieved.</p> <p><u>Expansionary FP to achieve international competitiveness</u></p> <p>Expansionary FP can also achieve international competitiveness. The lower corporate tax rates would also make Sg more attractive to FDI as their post-tax profits in Sg increase. Additionally, if the increased government spending is on improving infrastructure, the attractiveness to FDI would also increase.</p> <p><u>Limitations of EFP in achieving growth</u></p> <p>However, the effectiveness of EFP in promoting growth depends on the size of the multiplier k. Singapore's multiplier effect tends to be small due to a high marginal propensity to withdraw (MPW) as a result of a high MPS and MPM. Her compulsory savings scheme, the Central Provident Fund (CPF), results in a high MPS and her lack of resources and hence import-dependence for both finished goods and raw materials lead to a high MPM. The final increase in RNY and hence the impact on economic growth is limited.</p> <p>In addition, there may be resource crowding-out. As government spends on building infrastructure projects and engages scarce resources, resources such as labour will be drawn away from the private sector. The shortage of labour will drive up wages hence increase cost of production, leading to higher prices as producers pass on the higher costs to the consumers and hence lower global competitiveness. Firms in the private sector may cut down on their investment, and the fall in I may offset the rise in G, hence the increase in RNY is limited.</p> <p><u>Limitations of EFP in achieving international competitiveness</u></p> <p>Also, EFP may not be very effective in achieving international competitiveness as it would also depend on the tax rates in other comparable economies. A reduction in corporate tax rates may have a limited effect on FDI if Hong Kong (a competitor) also reduces corporate taxes at the same time.</p> <p><u>Exchange rate policy</u></p> <p>The modest and gradual appreciation of SGD makes exports more expensive in terms of foreign currency and imports cheaper in terms of SGD. Assuming Marshall-Lerner condition $PED_x + PED_m > 1$, net exports will fall, resulting in fall in AD and GPL, curbing demand-pull inflation. It also makes imported raw materials cheaper in terms of SGD, reducing cost of production and curbing cost-push inflation, enhancing global competitiveness.</p> <p>The modest and gradual appreciation of SGD also reflects strong economic fundamentals of the Singapore economy due to strong export growth and stable economy, hence boosting business confidence. With the strong business confidence, together with the fall in inflation, Singapore attracts FDI due to the rise in expected profits, resulting in increase in I. This</p>

Requirement	Suggested Answer
	<p>increases AD and RNY multiple times via the multiplier process, achieving positive actual growth.</p> <p>In the long run, a rise in FDI leads to capital accumulation in the economy. In addition, FDIs may bring in better quality machinery, technology, skills and expertise which will enhance quality of capital and labour. Productive capacity is thus expanded, increasing LRAS and achieving potential growth. With both increase in AD and LRAS, sustained economic growth is achieved.</p> <p><u>Limitation of ERP</u></p> <p>Managing the ER has some challenges as the government needs to know when to intervene, what ER they should aim to maintain, and how persistently they should try to maintain that rate. However, they may not have up-to-the-minute and reliable information about the state of the global economy and the various interactions in the foreign exchange market. If the SGD is too strong, it will erode its export competitiveness and worsen the BOP and reduces RNY.</p>
Conclusion:	<p>In conclusion, increasing labour productivity is important in helping Singapore maintain global competitiveness and sustain growth. As Singapore is a small economy which lacks resources, it has very limited quantities of factors of production which restricts its ability to produce a large amount of output. If aggregate demand increases without increases in aggregate supply, the economy will have actual growth with high inflation. This is detrimental to her global competitiveness. Furthermore, Singapore is facing an ageing population and stricter foreign worker policy which will lead to a fall in the availability of labour and raise labour costs in future as the supply of workers decreases. By improving labour productivity, Singapore can increase the quality of labour, thereby allowing her economy to increase the maximum amount of output and reduce GPL. Export competitiveness can be maintained and FDI continue to flow in. This is crucial for Singapore which depends on trade and FDI for growth. Hence, increasing productivity is a good long term strategy for Singapore.</p> <p>However, the root cause of loss of global competitiveness and slow growth may be due to external factors such as rise in prices of raw materials and weak external demand. Hence, in order to resolve Singapore's vulnerability to external factors, it is necessary for the government to use a combination of policies of increasing productivity, modest and gradual appreciation stance to mitigate imported inflation and demand-management policies to stimulate growth. In addition, continued ability to attract FDI lies not only in our productivity drive but other policies such as a low corporate taxes and & other pro-business policies. Improving productivity is a necessary but not only way to achieve international competitiveness and economic growth.</p>

Marking Scheme

Level	Description	Marks
3	<p>High L3 (18-20) Answer covers sufficient scope in terms of showing how improving labour productivity may affect Singapore's global competitiveness (in terms of exports & FDI) and ability to sustain growth (both actual & potential growth) as well as at least 2 other policies and limitations. Explanations are well-developed and make rigorous use of economic frameworks (AD/AS analysis). Arguments are sufficiently illustrated by the use of examples.</p> <p>Low L3 (15-17) Answer covers sufficient scope in terms of showing how improving labour productivity may affect Singapore's global competitiveness and ability to sustain growth as well as at least 2 other policies and limitations. However, answer lacks scope in terms of global competitiveness or growth. Explanations are well-developed and make rigorous use of economic frameworks (AD/AS analysis). Arguments are sufficiently illustrated by the use of examples.</p>	15-20
2	<p>High L2 (12-14) Answer shows understanding of how improving labour productivity may affect Singapore's global competitiveness and ability to sustain growth as well as at least 1 other policy. May be lacking in scope (eg limitations) Explanations are underdeveloped and makes insufficient use of economics framework and examples.</p> <p>Low L2 (9-11) Answer shows understanding of how improving labour productivity may affect Singapore's global competitiveness or ability to sustain growth as well as at least 1 other policy. May be lacking in scope (eg limitations) Explanations are undeveloped and lacking in use of economics framework or examples. Or One-sided answer.</p>	9-14
1	<p>High L1 (5-8) Answer covers sufficient scope (thesis vs anti-thesis) but lacks sound arguments. Answer is descriptive.</p> <p>Low L1 (1-4) A descriptive answer with insufficient scope.</p>	1-8
E3	A well-elaborated conclusion that considers the nature of the Singapore economy and justifies the stand taken convincingly.	4-5
E2	An explained conclusion with a justification for a judgement which is not sufficiently convincing.	2-3
E1	An unexplained conclusion.	1

5 The Monetary Authority of Singapore's primary goal is ensuring price stability and maintaining confidence in the domestic currency. Monetary policy in Singapore is centred on the exchange rate.

- (a) Explain how the exchange rate can be used to maintain price stability in Singapore. [10]
- (b) Discuss whether price stability should remain the top priority of the Singapore government given the gloomy world outlook. [15]

- (a) Explain how the exchange rate can be used to maintain price stability in Singapore. [10]

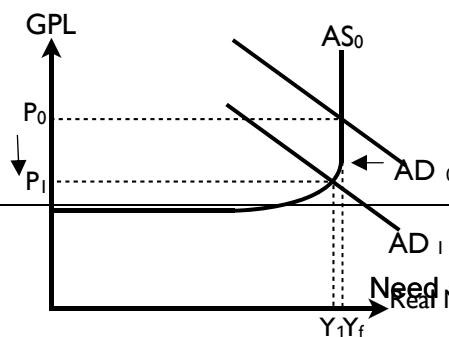
Question Requirements

Command → explain

Concept → exchange rate, price stability

Context → Singapore

Requirement	Suggested Answer
Introduction Define key terms and set the context	The exchange rate is defined as the rate at which one currency trades for another on the foreign exchange (forex) market. Price stability refers to a situation when there is zero or small rise or fall in the general price level. Being a small and open economy largely reliant on FDI & trade for its growth and being very reliant on imports due to the lack of resources, the Singapore economy is significantly affected by its exchange rate. MAS, therefore, has actively pursued an exchange rate policy that lead to a trend of <u>gradual and modest appreciation of the S\$</u> in order to neutralise both demand-pull and imported cost-push inflation.
Body 1 (Demand-pull inflation) - Explain how appreciation of exchange rate reduces demand-pull inflation	On the AD side, an appreciation of the Singapore dollar will cause exports to become more expensive in foreign currency and imports to be cheaper in domestic currency. This will cause a fall in the quantity demanded of exports as foreigners buy less of our exports and a rise in quantity demanded of imports as locals switch to buy more of the cheaper imports. Assuming the Marshall-Lerner condition holds, that is, $ PED_x + PED_M > 1$, the appreciation of the currency will cause net exports ($X - M$) to decrease. This in turn reduces AD causing a leftward shift of the AD curve from AD_0 to AD_1 in the figure below. The general price level falls from P_0 to P_1 , offsetting some of the inflationary pressure.



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	<p>Singapore's small size and dependence on trade: Singapore's small size means that domestic consumption and investment are low. To grow, Singapore needs to increase AD through exporting overseas. This has resulted in the X-M component of AD for Singapore to be higher than many other countries. Exchange rate policy, therefore, targets a significant component of AD. If there are inflationary pressures, an appreciation would cause a significant reduction in AD and hence has a large effect in dampening inflation.</p>
Body 2 (Cost-push inflation) - Explain how appreciation of exchange rate reduces demand-pull inflation	<p>On the AS side, an appreciation of S\$ reduces the cost of imported materials which form the bulk of production cost. This reduces the cost of production and causes AS to shift downwards from AS_0 to AS_1 (refer to diagram below). This in turn reduces the price of domestically produced goods from P_0 to P_1, offsetting some of the inflationary pressure from imported inflation.</p> <p>Singapore's lack of natural resources: Singapore's lack of natural resources causes it to import even the most basic necessities. This reliance on imports also means that we tend to suffer from imported inflation. Imported inflation comes about when the price of imported raw materials or price of imported final goods and services increases. The increase in price of imported raw materials would translate into an increase in cost of production of local goods. This increase would be significant since it is estimated that the import content of final goods and services in Singapore is about 55%. The increase in cost of production then causes an upward shift of the AS curve and an accompanying increase in the GPL. Since inflation in Singapore is usually imported, the exchange rate policy would be effective since it targets the price of imports (an appreciation reduces the price of imports, including the price of imported raw materials).</p>
Conclusion	Hence, Singapore uses the exchange rate as a policy instrument to tackle the external causes of inflation and maintain price stability as Singapore is small, open, and trade-dependent.

Level	Description	Mark Range
L3	Well-developed explanation of how exchange rate can be used to tackle both demand-pull and cost-push inflation with the use of diagrams.	8 – 10
L2	Under-developed explanation of how exchange rate can be used to tackle both demand-pull internal and cost-push inflation. Diagrammatic analysis is missing. OR Well-developed explanation of how exchange rate can be used to tackle either demand-pull internal or cost-push inflation.	5 – 7

L1	Answer is descriptive and shows basic knowledge of relationship between exchange rate and inflation rate.	1– 4
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(b) Discuss whether price stability should remain the top priority of the Singapore government given the gloomy world outlook. [15]

Question Requirement:

Command word → Discuss

Concept → price stability, other macro aims, gloomy world outlook

Context → Singapore

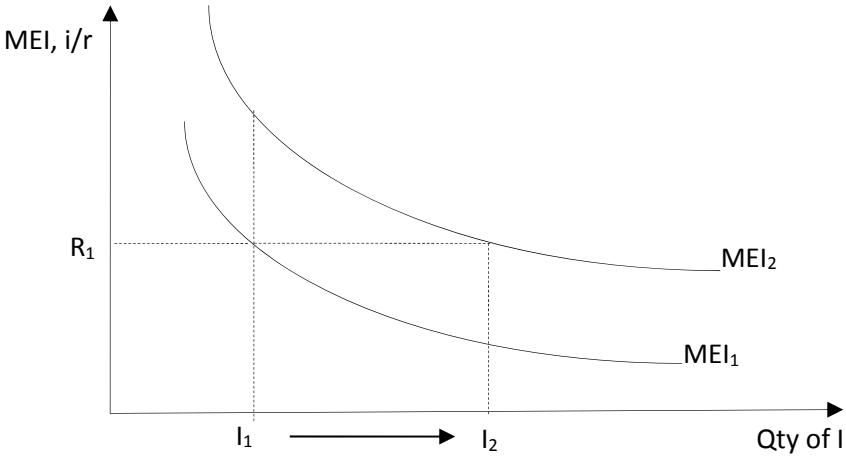
Outline:

- Intro: State the 4 macro aims of the government and explain implications of gloomy world outlook on Singapore economy
- Thesis: Explain why price stability should remain the top priority – benefits linking to the other macro aims
- Anti-thesis: Explain why price stability should not remain the top priority – conflicts with other aims, more important aims given the gloomy world outlook

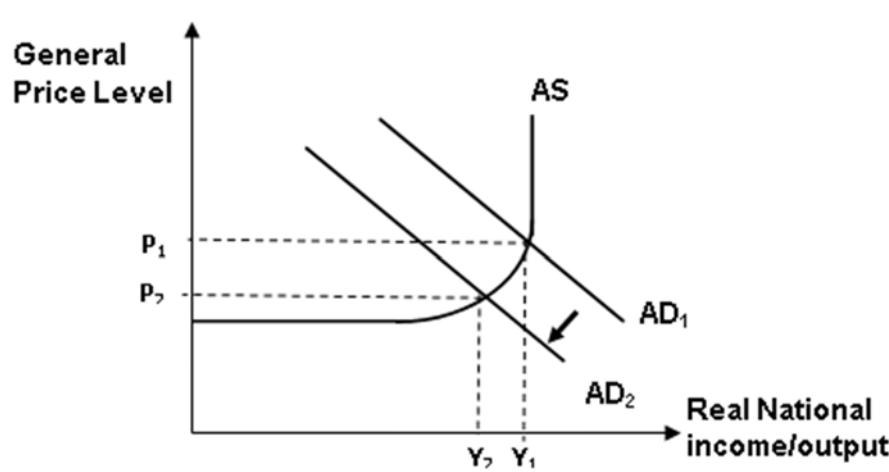
Evaluative conclusion

- Explain which of the macro aim should be the top priority considering the current state of the economy and the severity of the other macroeconomic problems

Requirement	Suggested Answer
Introduction: State the 4 macro aims of the government and explain implications of gloomy world outlook on Singapore economy	Besides price stability, the Singapore government has 3 other macroeconomic aims which they consider when making macroeconomic policy decisions. These are sustained economic growth, low unemployment and healthy balance of payments. A gloomy world outlook usually stems from a general slowdown in economic activities, resulting in declining national income and loss of business and consumer confidence. As Singapore is a small and open economy, such a situation will have huge macroeconomic impacts on the Singapore economy. FDI to Singapore and demand for Singapore's exports will fall, worsening the BOP and reducing AD leading to a multiplied fall in real NY. The Singapore government gives top priority to maintaining price stability because it helps to achieve the other aims. However, given a gloomy world outlook, pursuing policies to maintain price stability might conflict with the other aims.
Body 1: Thesis: Explain why price stability should remain the top priority – benefits linking to the other macro aims	Price stability will allow the country to achieve other macroeconomic objectives, such as promoting a sustained economic growth, reducing cyclical unemployment and improving BOP. <u>Price stability promotes Investment and hence sustained economic growth.</u> With stable prices, firms are better able to estimate the returns on their investment with more certainty. This will shift the marginal efficiency of

Requirement	Suggested Answer
	<p>investment (MEI) curve upwards as illustrated in the following diagram.</p>  <p>Assuming that interest rate remains the same at R_1, more investment projects (between I_1 and I_2) becomes profitable as the expected rate of return (shown by the MEC_2) exceeds the interest rate. Hence this leads to an increase in investment to I_2.</p> <p>This increase in I, causes AD to increase from AD_0 to AD_1. This results in increase in real NY from Y_0 to Y_f via the multiplier effect, which will increase the derived demand for labour and thus lower unemployment. Over time, potential growth may also be observed in the economy as AS increases from AS_0 to AS_1. This will ensure that the economy achieves a non-inflationary economic growth, as depicted in the diagram below. Real NY increases further from Y_f to Y_2, however, due to increase in productive capacity there is a drop in the GPL from P_1 to P_2.</p> <p>Hence, price stability helps a country to achieve sustained economic growth. For small and open Singapore, FDI is a key growth engine and crucial in creating employment opportunities. Therefore, price stability should be the top priority of the Singapore government.</p>

Requirement	Suggested Answer
	<p><u>Price stability stimulates actual economic growth.</u></p> <p>Price stability (low inflation) could cause domestic inflation rate to be lower than the foreign countries'. Thus, domestic exports would be relatively cheaper than foreign countries' domestically produced goods. Likewise, the relatively cheaper domestic goods will discourage domestic consumers from switching to imported substitutes. This helps to maintain C_d and X and possibly these two components of AD would increase over time if prices of goods and services in other countries remain relatively higher. Increase in both C_d and X will boost AD and stimulate EG and employment of labour, assuming country is below full employment. For a small and open economy like Singapore where exports account for over 200% of her GDP and is a key driver of economic growth, ensuring export competitiveness through price stability should therefore be the priority of the government.</p> <p><u>Price stability also improves the BOP.</u></p> <p>From the above analysis, price stability leads to an increase in export revenue while import expenditure will not rise excessively. Thus net exports will rise leading to an improvement in the current account of the BOP. In addition, price stability encourages FDI as well and this will result in an improvement in the financial and capital account. Therefore, with improvements in current, capital and financial accounts, the BOP improves.</p>
Body 2: Anti-thesis: Explain why price stability should not remain the top priority – conflicts with other aims, more important aim given the gloomy world outlook	<p><u>Explain how the pursuit of price stability may bring about conflicts with other macroeconomic goals</u></p> <p>In order to pursue price stability, Singapore chooses to pursue a gradual and modest appreciation of SGD as explained in part (a). However, an appreciation of the currency will erode Singapore's export competitiveness, worsen the BOP and reduce RNY instead with a gloomy world outlook as countries dependent on trade tend to devalue their currencies to boost export demand. If Singapore continues with the appreciation stance, it will not only reduce export revenue, FDI will also be discouraged, worsening the BOP. AD and AS decrease and hence fall in employment and actual growth. Potential growth will also be affected as FDI falls and this has implications on the general price level in the long term as demand-pull inflation may result when the economy recovers (when AD finally rises) and the lack of investment presently prevents AS from accommodating to the increase in AD. Hence, faced with a weak external demand, price stability should not remain the top priority of the Singapore government.</p> <p><u>Explain why other aims are more important</u></p> <p>With a gloomy world outlook, as net exports and FDI fall, AD falls from AD1 to AD2 and real NY falls via the multiplier effect from Y1 to Y2 as shown in the diagram below. Firms reduce their output and some workers get retrenched. This will bring about social unrest and if the unemployed cannot get re-employed in the short-run, it will bring about further decline in the economic growth. This will lead to possible cyclical unemployment.</p>

Requirement	Suggested Answer
	<p>Net exports and FDI make up a large proportion of Singapore's AD and a fall in these components result in serious impact on the Singapore economy. For example, in the global financial crisis of 2007 -2008, with gloomy world outlook, Singapore was the first Asian country to slip into a recession. Her export-oriented and service industries suffered and jobs were at stake. This shows that Singapore is very vulnerable to external shocks and if she continues to ensure price stability via a gradual and modest appreciation of SGD, her internal economy will suffer serious consequences of negative growth, high unemployment and an unfavourable BOP.</p>  <p>Prolonged or long-term high unemployment rate is also devastating as it will lead to an eventual lowering of skills level of the country. It may take a substantial sum of money and time to improve the skills and employability of these people who have been out of job for a substantial period of time. Although Singapore might experience general price level to fall, it is not the primary concern during a recession. Instead, the Singapore government should change her policy stance and make actual growth and full employment her top priority instead.</p>
Conclusion:	<p>Whether price stability should be the top priority of the government is dependent on the nature of the economy and the severity of the other macroeconomic problems. With the increasing flow of goods and services, foreign direct investment and capital due to globalization, countries are facing greater challenges in achieving their macroeconomic aims. Small and open economies like Singapore should prioritise price stability over other macroeconomic aims because it helps the economies to maintain their export price competitiveness over time and to sustain their export-driven economic growth and achieve the other macro aims at the same time.</p> <p>However, if world incomes are falling and actual economic growth and employment are going to be severely affected, the government may need to take a more immediate and direct approach of tackling growth and unemployment and hence prioritise these other aims rather than price stability as the benefits of growth and lower unemployment outweighs the costs of a greater price instability.</p>

Marking Scheme

Level	Description	Marks
3	<p>For a well-developed explanation of the benefits of achieving price stability and conflicts with other macroeconomic aims during gloomy world outlook. Answer that applies to the Singapore context.</p> <p>For answers with limited references to the gloomy world outlook, award max. 8m</p>	8-10
2	<p>For an under-developed answer on the benefits of achieving price stability and conflicts with other macroeconomic aims. The explanation of the conflicts does not necessarily include how the policy used to achieve one aim entails sacrificing another aim.</p> <p>Does not make reference to Singapore economy</p> <p>One-sided answer: Max 6m</p>	5-7
1	For a descriptive answer that merely shows knowledge of price stability, and some references to other macroeconomic goals. However, there are severe gaps/lack of economic analysis.	1-4
E3	A well-elaborated conclusion with a convincing justification for a judgement on whether price stability should remain the Singapore government's top priority given the gloomy world outlooks.	4-5
E2	An explained conclusion with a justification for a judgement on whether price stability should remain the Singapore government's top priority. However, the justification is not sufficiently developed.	2-3
E1	An unexplained conclusion.	1

6 (a) Explain the internal and external causes of a trade deficit. [10]

(b) Discuss the factors that governments should consider when adopting policies to tackle this problem.

[15]

(a) Explain the internal and external causes of a trade deficit. [10]

Question Requirements

Command → explain

Concept → internal and external causes, trade deficit

Context → not specified

Requirement	Suggested Answer
Introduction Define trade deficit	A trade deficit refers to a situation where the import expenditure ($P_m \times Q_m$) is greater than the export revenue ($P_x \times Q_x$). The causes may be internal, that is, factor arising from within the country, or external, that is, arising from outside the country.
Body (internal factors) Explain how internal factor causes a trade deficit – relatively higher domestic inflation rate	Internal factors such as a relatively higher domestic inflation rate will cause a trade deficit. A rise in a country's inflation rate will cause her exports to be more expensive and imports to be relatively cheaper. Assuming demand for exports is price elastic due to the availability of substitutes, a rise in price of exports will cause the quantity demanded of exports to fall more than proportionately and the export revenue will fall. If the imports are substitutes deemed by consumers to be alternatives to satisfy similar wants, a rise in price of domestic goods will cause the demand for imports to rise, leading to a higher import expenditure. As a result, a fall in export revenue together with a rise in import expenditure will worsen the balance of trade. Therefore, if the domestic inflation rate remains persistently higher than the foreign inflation rates, a trade deficit may result.
Body (internal factors) Explain how internal factor causes a trade deficit – high rate of economic growth	Another internal factor that causes a trade deficit is a relatively high rate of economic growth in the domestic country. A relatively high growth rate indicates that the real national income of a country has risen relative to other countries and her residents have greater purchasing power. This will increase the consumption of both domestically produced goods as well as imported goods. Assuming most of the imports they purchase are positive income elastic, the demand will increase more than proportionately when income increases. This higher demand for imports will worsen the trade balance as Import expenditure rises, ceteris paribus.
Body (external factors) Explain how external factor causes a trade deficit – loss of	External factors such as a loss of comparative advantage causes a trade deficit. With globalisation and freer trade flows, competition from emerging economies may lead to the loss of comparative advantage of the more developed countries. Trade is basically governed by the law of comparative advantage which states that countries should specialize in the production of goods for which it has a lower opportunity cost. Over time, patterns of trade

comparative advantage	are likely to change as costs of production change. For example, the abundance of labour, land and other raw materials in China has resulted in a lower opportunity cost than the developed countries when it comes to production of low-end manufactured goods. If other countries like China are able to gain comparative advantage in the production of a good which used to be exported by the more developed domestic country, this will mean that the similar product produced by foreign countries is now cheaper than that produced by the domestic country. The domestic country will experience a fall in export demand and a rise in import demand. A loss in comparative advantage will thus cause the trade balance of a country to worsen.
Conclusion	Thus, both internal and external factors may cause a trade deficit.

Marking Scheme

Level	Description	Mark Range
L3	Well-developed explanation of internal and external factors that cause a trade deficit.	8 – 10
L2	Under-developed explanation of internal and external factors that cause a trade deficit. OR Well-developed explanation of internal OR external factors that cause a fall in trade deficit.	5 – 7
L1	Answer is descriptive and shows basic knowledge of factors that cause a trade deficit.	1 – 4

- (b)** Discuss the factors that governments should consider when adopting policies to tackle this problem. [10]

Question Requirement:

Command word → Discuss

Concept → macro policies, decision-making framework

Context → trade deficit

Outline:

- State the policies that government can adopt to tackle trade deficit
- Identify and explain factors that governments may consider when deciding which policy to adopt to tackle trade deficit. For each factor, there is a need to show how the differences in the factors lead to different tools implemented by the governments.
 - Root cause of problem – eg. unfair trade practices vs loss of comparative advantage
 - Nature of economy – small & open vs large & less open
 - Unintended consequences on the economy
 - Financial constraints

Evaluative conclusion

- Explain which of the considerations likely played the greatest role in influencing a government's decision and justify why

Requirement	Suggested Answer
Introduction: Briefly state the various policies available to tackle trade deficit and give an overview	In general, governments can use either expenditure-reducing or expenditure-switching policies to tackle a trade deficit. Expenditure-reducing policies aim to reduce the expenditure on imports through the use of contractionary monetary and/or fiscal policies. Expenditure-switching policies aim to increase the price of imports by making domestic goods/exports cheaper and/or making foreign goods/imports more expensive. This is to switch the expenditure of domestic households from foreign to domestic goods to reduce imports and/or switch the expenditure of foreign households to goods produced by the country to increase its exports. Protectionist measures, supply-side policies and devaluation of the domestic currency are expenditure-switching policies. However, in deciding on the choice of macroeconomic policies, governments often have to consider whether the policies address the root causes of the problem, the nature of the economy and the unintended consequences of the policies adopted.
Body 1: Factor to consider – root causes of problem	If the reason for the trade deficit is a loss of comparative advantage, government should adopt supply side policies to regain a country's comparative advantage or to seek out new areas of comparative advantage. Supply side policies that include measures to encourage firms to invest and engage in research and development can increase the competitiveness of a country's goods. The resultant lowering of cost of production or increase in quality of goods produced could help the country regain comparative advantage, thus boosting its export revenue and reducing its import expenditure and enabling it to correct its trade deficit. However, one limitation of supply side policies is that the results of R&D is not always guaranteed. Furthermore, the results of such policies can only

Requirement	Suggested Answer
	<p>be seen in the long term.</p> <p>The government may therefore deem it necessary at least in the SR to adopt protectionist measures like imposing tariffs if the cause of the trade deficit is due to industries losing CA (sunset industry) and new industries are not able to build CA given the intense competition (infant industry). Temporary protectionism gives time for industries to restructure and develop CA. Protectionism can then be removed when restructuring has been completed. However, such firms may become complacent and fail to develop comparative advantage over time. In this case, protectionist measures would not be suitable to solve the trade deficit problem arising from a loss of comparative advantage as trade deficit will persist when the protectionist measures are removed.</p> <p>On the other hand, if the trade deficit is caused by unfair trade practices of trading partners. Example, dumping, which refers to selling of the same good to a foreign country at a lower price than that charged to the domestic buyers and often below the marginal cost of production. The objective is to drive out rival producers in the importing country and eventually monopolize the market. Import-substituting industries in the domestic market may not be able to compete against such foreign exporters and hence may be forced to shut down in the long run. The biggest concern of the government is that, after the competitors are destroyed, the foreign monopolist will now charge a higher price to its domestic consumers, making consumers worse off. Hence, given this root cause of the problem, protectionism is therefore justified.</p>
Body 2: Factor to consider – nature of economy	<p>For a small and open economy without natural resources and has a small domestic market, it is dependent on foreign markets for sale of its products as well as imports of raw materials and necessities. Engaging in protectionism might invite retaliation and the domestic country would suffer a reduction in export revenue, which could undo any positive effects from the reduction in import expenditure that the protectionist measure was supposed to create on trade balance and economic growth. Also, the demand for imported raw materials and necessities is price inelastic. The imposition of tariffs would raise the price of imports and the quantity demanded would fall less than proportionately, resulting in an increase in import expenditure. This would worsen the trade balance.</p> <p>It is more crucial for small and open economies to improve their export competitiveness (both price and non-price competitiveness) with the use of supply-side policies. The government needs to continually create external demand through maintaining competitiveness of exports with R&D and innovation efforts to improve on the quality and attractiveness of its exports.</p> <p>For example, direct government spending on specific infrastructure to attract R&D, spending on training to improve labour productivity will shift both SRAS and LRAS curves to the right and hence achieving both actual and potential growth and lower GPL which results in cheaper exports and if $PED_x > 1$, export revenue rises and the trade balance becomes more</p>

Requirement	Suggested Answer
	<p>favourable, assuming ceteris paribus.</p> <p>Large economies with large pool of natural resources and domestic market, in contrast, do not have such constraints and may consider imposing protectionist measures as they are able to depend on domestic production and domestic engines of growth.</p>
<p>Body 4: Factor to consider – unintended consequences</p>	<p>Expenditure reducing policy such as contractionary fiscal and monetary policy could be used to deflate the economy and reduce import expenditure. Contractionary fiscal policy influences the level of aggregate demand through an increase in income tax and reduction in government expenditure. The increase in income taxes will reduce households' disposable income and hence cause consumers to reduce consumption of imported goods. A reduction in government expenditure will also mean that less may be spent on imported goods by the government. This would reduce import expenditure. Net exports will improve (assuming no change in export revenue) reducing the rising trade deficit. This could reduce the problem of trade deficit.</p> <p>However, contractionary fiscal policy may give rise to cyclical unemployment. A reduction in disposable income would cause not only import expenditure to fall but also expenditure on domestically produced goods to decrease. Hence, domestic production would decrease and may lead to higher level of demand deficient unemployment. Thus demand-management policies may not be an appropriate policy to resolve a trade deficit.</p> <p>Similarly, protectionist measures aimed to reduce import expenditure may have unintended consequences. A fall in import expenditure by the domestic consumers also means a reduction in the export revenue of the trading partner, causing a fall in the AD and hence national income of trading partners. This in turn reduces the trading partner's expenditure on the exports of the domestic country which practised protectionism first. When this happens, the domestic country's AD and hence national income then decreases again, reducing the positive effect of the protectionist measures.</p>
<p>Conclusion: Explain which is the most significant consideration</p>	<p>Multiple factors need to be taken into consideration simultaneously. The more comprehensive set of factors considered, the less unintended consequence or the more effective the set of policies will be. For example, if the government only considers the nature of the economy but not the root cause of deficit, the chosen policy may have limited impact on correcting the trade deficit.</p> <p>Timely and constant review of policies may be needed as such weights of factors in influencing effectiveness of policies may also change over time. For example, domestic consumers and firms may not be so reliant on imports but are now heavily relying on imports. Hence, import-restricting policies may become more effective in reducing trade deficit.</p>

Marking Scheme

Level	Description	Mark Range
L3	For an answer that thoroughly analyses the factors that may influence the government's decision. Answer demonstrates rigour and scope in analysis. At least 3 factors are provided in the analysis.	8 – 10
L2	For an answer that has good knowledge of the factors that may influence the government's decision. However, analysis is undermined by insufficient rigour and scope. Answers that provide analysis of 2 or fewer factors.	5 - 7
L1	Answer may have some knowledge of the factors to be considered. However, the answer has significant conceptual errors or is very descriptive.	1 – 4
E3	Well-explained conclusion/judgement on the importance of the factors in determining the government's decision.	4 – 5
E2	Explained conclusion/judgement on the importance of the factors in determining the government's decision.	2 – 3
E1	Unexplained conclusion/judgement.	1



MERIDIAN JUNIOR COLLEGE
JC2 PRELIMINARY EXAMINATION 2018

H2 Economics

9757/01

Case Study Questions

10 September 2018

2 hours 15 minutes

Additional Materials: Writing Paper

READ THESE INSTRUCTIONS FIRST

Do not open this booklet until you are told to do so.

Write your name, class and register number in the spaces at the top of the answer sheets.
Write in dark blue or black pen.

You may use an HB pencil for any diagrams or graphs.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Section A

Answer **all** questions.

Begin Case Study Question 2 on a fresh sheet of paper.

At the end of the examination, fasten all your work securely to the cover sheet with the string provided.

The number of marks is given in brackets [] at the end of each question or part question.

[Turn Over]

This document consists of 7 printed pages and 2 cover sheets.

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Question 1: Education

Table 1: Government expenditure per student (S\$) in Singapore

Year	2010	2011	2012	2013	2014	2015	2016
Primary Education	6 624	6 172	7 396	8 549	9 123	10 081	10 600
University Education	20 630	20 505	20 777	21 870	22 181	21 988	21 853

Source: data.gov.sg, accessed August 2018

Table 2: Gini Coefficient (2017)

Gini Coefficient (after tax and transfers)	
US	0.390
Singapore	0.356

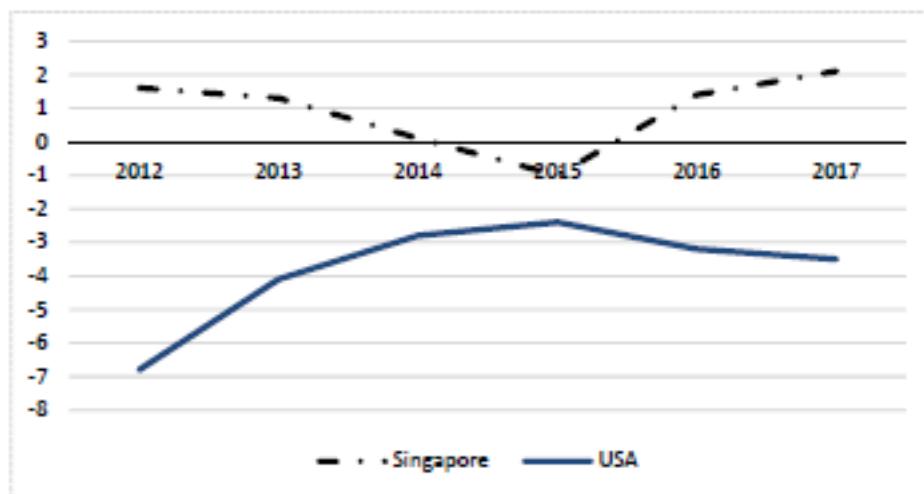
Source: The Straits Times, August 2018

Table 3: GDP per capita (US\$)

	2012	2013	2014	2015	2016	2017
Singapore	54 715	56 389	56 957	54 940	55 243	57 714
USA	51 450	52 782	54 696	56 443	57 588	59 531

Source: World Bank, accessed August 2018

Figure 1: Government budget balance of Singapore and USA (as % of GDP)



Source: Singapore Budget 2018; Congressional Budget Office, April 2018

Extract 1: Rise in price of university education in Singapore

The price of attending university in Singapore has jumped 38% on average since 2007. Official data showed that Singaporeans are spending more on higher education. Singapore's median household income grew 10% over the period and Consumer Price Index (CPI) rose 25%, yet university tuition fees were up 38%.

Increased labour costs in Singapore could have been a large contributing factor in the big jump in university costs, besides the cost to universities of owning and maintaining buildings, covering utilities and buying research equipment.

Government subsidies play a role in increasing education affordability in Singapore. And Singapore's increases in higher education tuition fees were, in fact, relatively tame when compared to other countries. College tuition in the U.S. increased by 50% between 2001 and 2015. However, rising demands from provisions for the ageing population, healthcare and other social needs in Singapore may threaten the sustainability of the government spending on higher education.

Adapted from: CNBC, October 2016

Extract 2: Returns from pursuing higher education

Unlike primary education, higher education provides individuals with concrete skills and capabilities, which in turn allow them to command a substantial wage premium when they enter the labour market. An increasing number of young Singaporeans are furthering their studies for this reason. There is a desire to learn more specialised skills, or secure a better job and higher pay check. Youths today also have a greater desire for personal fulfilment, which spurs them on to learn more about a subject they are interested in.

Nonetheless, there are compelling reasons to heavily subsidize higher education. There are social returns to higher education. Private returns – such as higher employability and wages – have positive social effects as well, in terms of lowering poverty and crime rates. Numerous productivity benefits also arise from higher education. For instance, economists hypothesise that a city with more human capital would be able to generate more knowledge capital, and the productivity gains from that would then spill over and raise incomes for the whole economy.

Moreover, even if the returns to higher education were completely private, there is a case for government to intervene to ensure that there are equal opportunities. While it is generally feasible for individuals to fund their own tertiary education through loan schemes, the lower-income may face credit constraints because of their lack of collateral. Evidence from abroad also suggests that the lower-income tend to underestimate the returns to education due to lack of information. Hence, a key component of government expenditure on higher education is channelled towards ensuring that higher education remains affordable for the population at large.

Adapted from: Singapore Budget 2010

Extract 3: Budget cuts in higher education in the United States

Almost a decade since the Great Recession hit in 2008-2009, US government spending on public colleges and universities remains well below historic levels. The recession led to record-breaking declines in government revenue, and the slow recovery prolonged its impact.

The funding decline has contributed to higher tuition and reduced quality on campuses as universities have had to balance budgets by reducing faculty and limiting course offerings. At a time when the benefit of a university education has never been greater, policymakers have made going to university less affordable and less accessible to the students most in need. This has jeopardized the ability of many to afford the higher education that is key to their long-term financial success and led to rising student debt levels for those who still pursue higher education. High school students who cannot afford the rising fees in universities are opting to start work earlier instead.

To help more young people reach their full potential — and, in turn, boost the economy and quality of life — it is necessary for policymakers to target financial aid at students on the margins and those most hampered by limited resources. This can be in the form of need-based financial aid which is awarded to students who have demonstrated financial need and might otherwise struggle to afford college.

Adapted from: www.cbpp.org, August 2017

Questions

- (a) (i) With reference to Table 1, compare the government expenditure per student on primary and university education in Singapore between 2010 [2] and 2016.
- (ii) Explain **one** possible reason for the difference observed in (a)(i). [2]
- (b) With reference to Extract 2, explain how investment in human capital can ‘raise incomes for the whole economy’. [4]
- (c) Use the concept of opportunity cost to explain one possible effect on each of consumers of education and the US government due to the ‘rising student debt [4] levels’ described in Extract 3.
- (d) Assess whether supply factors, rather than demand factors, are the key cause of rising price of university education in Singapore. [8]
- (e) Discuss whether Singapore should follow the US in lowering its higher education subsidies to better achieve the government’s microeconomic [10] objectives.

[Total: 30]

Question 2: Brexit – Breaking out of the European Union

The European Union (EU) is a political and economic union of 28 member states that are located primarily in Europe. While the United Kingdom (UK) is part of the EU, it uses its own currency, the pound sterling, instead of the euro. The UK is made up of England, Scotland, Wales and Northern Ireland. Ireland, on the other hand, is a separate independent country under the EU.

Table 4: Rates of growth of GDP, annual percentages, 2015-2017

	2015	2016	2017
EU	2.32	1.96	2.44
Germany	1.74	1.94	2.22
Ireland	25.56	5.14	7.80
UK	2.35	1.94	1.79

Source: The World Bank Group, 2018

Extract 4: Why Brexit?

The UK has voted to break out of the EU, according to official results on Friday (June 24, 2016), allowing ‘Brexit’ to strike a thunderous blow against the bloc and spreading alarm through markets as the pound sterling plummeted to a 31-year low against the dollar as the UK took a lurch into the unknown. Their decision will undoubtedly re-awaken fears of a domino-effect ripple of exit votes in EU-sceptic members that could imperil the integrity of the bloc, already struggling with twin economic and refugee crises.

The UK is also a net contributor to the EU budget, where the money is used across Europe to ensure a level playing field for the EU's poorer countries by being invested in for example, new roads or broadband. However, the bill is rising as the UK's economy improves, with a net contribution of £11.3 billion in 2013, compared to £2.7 billion in 2008, according to official UK data.

Freedom of movement for labour is one of the key principles of the EU. This ease of movement has been attacked in the UK, which had an unexpectedly high level of migration from several old Soviet bloc states after they joined the EU. Some of the blue-collar workers felt threatened by this new, cheap, source of labour as their income decreases.

Source adapted from *The Straits Times*, 24 June 2016 and CNBC, 27 May 2015

Extract 5: EU membership has been good for Ireland

The creation of a single market in Europe in the 1990s was exploited by Ireland like no other country. Increasingly, companies are choosing Ireland as a jumping off point for their European ambitions. Many of them are also using Ireland as a technology hub by placing vital data centres on Irish soil. Ireland has 8 of out 10 of the largest ICT companies in the world here because the infrastructure is at the levels these companies expect.

While Ireland's "natural" advantages – English-speaking and geographical location between east and west – cannot be discounted, a key advantage of coming here is that incoming companies can avail of leading-edge services. If these services weren't available, the companies wouldn't come, no matter how attractive the tax structure.

Source: IDA Ireland, 12 April 2012 and *The Guardian*, 17 June 2016

Extract 6: Brexit one month on – the good, the bad and the ugly

One month on and the UK is still reeling from the referendum result on the country's place in the European Union. The political and economic landscape of the country has changed radically since. UK now faces a mountain of issues, many of which are tied to Brexit. Inflation is surging, consumer spending is slowing, productivity remains mired in pre-crisis growth levels, and uncertainty reigns supreme. The Bank of England has sought to respond: After the referendum, it cut interest rates to the lowest level in its 322-year history.

Global financial markets have surprised many people by recovering faster than expected in the immediate weeks following the Brexit vote. Yet, confidence in the UK economy is starting to look shaky.

One bright spot was that the weaker pound had boosted exports orders for manufacturing. Given the drop in sterling, UK firms are seen as ripe for takeovers – earlier this week, Japanese firm Softbank agreed to buy semiconductor firm ARM Holdings in a deal worth more than \$32 billion.

Source: Various

Extract 7: Brexit and its impacts on the EU

The European Union's chief concerns over UK's vote to leave the group are political but losing its second-largest economy will have a huge economic impact as well. For one, other members will have to fill in at least some of the shortfall from a lack of its contributions. UK's total contribution to the EU budget for 2016 has been set at 19.4 billion euros. Germany, the EU's largest member, would inevitably have to provide the most extra cash, estimated to be about 2.5 billion euros.

Many economists also forecast Brexit would at least temporarily reduce UK growth. A possible reintroduction of import tariffs could lead to a reduction of rest-EU GDP by 0.26 percent. However, the UK is also consistently the largest recipient of foreign direct investment in the EU, with an average of \$56 billion per year in the 2010-2014 period. Given that access to the European single market has been cited as important to the UK's attractiveness to FDI, there is therefore a risk that some FDI would be diverted to other EU countries if UK lost access to the EU single market.

Additionally, one of the main arguments for Brexit campaigners is to limit migration of workers from other EU countries. Hence, if UK did cap immigration, it could have a negative impact on eastern European countries. The impact could be most acute in the countries with the most citizens in UK – Poland (853 000 in 2014), Romania (175 000) and Lithuania (155 000). By contrast, other affluent western European countries, such as Germany, could as a result see higher inflows of EU migrants.

Research determined that impacts could be worse in Ireland than in UK, based on their degree of trade dependence on UK, while the impact on Germany would be very limited given that its auto and other manufacturing sectors have many other markets. There could also be “dynamic effects”, such as a potential loss of productivity because a decreased openness to trade reduces international competition and lowers the incentive to improve competitiveness. With dynamic effects, the long-term impact on German GDP would range between 0.3 and 2 percent below the value if UK remained in the European Union.

Source: Reuters, 24 June 2016

Questions

- (a) With reference to Table 4, compare the changes in GDP between Germany and the UK from 2015 to 2017. [2]
- (b) (i) Using a diagram, explain why the pound sterling fell in value after UK had voted to break out of the European Union. [2]
- (ii) Explain whether the depreciated pound sterling would lead to a higher cost of living and standard of living in the UK. [6]
- (c) Explain a likely advantage to the foreign firms for locating their businesses in Ireland. [2]
- (d) In light of the issues faced by the UK as mentioned in Extract 6, evaluate the Bank of England’s decision to cut interest rate. [8]
- (e) With reference to the data where appropriate, assess whether on balance, the benefits of Brexit outweigh the costs for UK and the remaining EU member countries. [10]

[Total: 30]

– End of Paper –



MERIDIAN JUNIOR COLLEGE
JC2 PRELIMINARY EXAMINATION 2018

9757/01

COVER SHEET

H2 ECONOMICS

Section A: Case Study Question 1

Name: _____

Civics Group: _____

Register Number: _____

Tutor: _____

10 September 2018

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At the end of the examination, fasten this cover sheet to your answer scripts for Case Study Question 1 with the string provided before submission.

QUESTIONS ATTEMPTED		MARKS
(a)	(i)	
	(ii)	
(b)		
(c)		
(d)		
(e)		
TOTAL		/30



MERIDIAN JUNIOR COLLEGE
JC2 PRELIMINARY EXAMINATION 2018

9757/01

COVER SHEET

H2 ECONOMICS

Section A: Case Study Question 2

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Civics Group: _____

Register Number: _____

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QUESTIONS ATTEMPTED		MARKS
(a)		
(b)	(i)	
	(ii)	
(c)		
(d)		
(e)		
TOTAL		/30



MERIDIAN JUNIOR COLLEGE
JC2 PRELIMINARY EXAMINATION 2018

H2 Economics

9757/02

Paper 2 Essays

17 September 2018

2 hours 15 minutes

Additional Materials: Writing Paper

READ THESE INSTRUCTIONS FIRST

Do not open this booklet until you are told to do so.

Write your name, class and register number in the spaces at the top of the answer sheets.

Write in dark blue or black pen on both sides of the paper.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **three** questions in total, of which **one** must be from Section A, **one** from Section B and **one** from **either** Section A or Section B.

Begin each essay question on a fresh sheet of paper.

At the end of the examination, fasten all your work securely to the cover sheet with the string provided.

The number of marks is given in brackets [] at the end of each question or part question.

[Turn Over]

This document consists of **3** printed pages and **3** cover sheets.

Answer **three** questions in total.

Section A

One or two of your three chosen questions must be from this section.

- 1 Due to scarcity, resources have to be allocated between competing uses. For instance, farmers in India are increasingly allocating more land to growing cotton instead of tea leaves. Such decisions may be influenced by fast-changing clothing trends.
 - (a) Explain how the price mechanism can allocate scarce resources efficiently with increasing demand for a product. [10]
 - (b) Given these farmers' decision on the use of their land, assess the relevance of elasticity concepts in explaining the impact on consumers' expenditure on tea and other beverages. [15]
- 2 Discuss the extent to which government failure is the main factor that a government should consider when addressing the various sources of market failure. [25]
- 3 Disruptive technologies include the advent of e-commerce retailing which has led to consumers buying cheaper products online rather than going to a physical location.
 - (a) Explain how the survival of firms is affected by disruptive technologies. [10]
 - (b) Discuss whether increasing competition faced by large retail firms is desirable for the society. [15]

Section B

One or two of your three chosen questions must be from this section.

- 4 Discuss the extent to which trade-offs in macroeconomic objectives will arise when the Singapore government allows its currency to appreciate. [25]

- 5 Rising government expenditure especially on subsidies is causing many governments to face rising debts.
 - (a) Explain the process whereby an increase in government expenditure can lead to a bigger change in national income. [10]
 - (b) In view of rising government debts, discuss whether government subsidies to increase an economy's global competitiveness are justified. [15]

- 6 Globalisation has made our world more interconnected than ever before and presented a wealth of opportunities. Yet, globalisation has also presented an uneven distribution of its benefits and costs.
 - (a) Explain the factors that have fuelled globalisation. [10]
 - (b) Globalisation has presented an uneven distribution of its benefits and costs. Discuss the reasons for this. [15]

- End of Paper -



MERIDIAN JUNIOR COLLEGE
JC2 PRELIMINARY EXAMINATION 2018

9757/02

COVER SHEET

H2 ECONOMICS

Section A & B: Essay Question

Name: _____

Civics Group: _____

Register Number: _____

Tutor: _____

17 September 2018

2 Hours 15 Minutes

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WRITE down the question number you have attempted.

At the end of the examination, fasten this cover sheet to your answer scripts for the essay with the string provided before submission.

QUESTION ATTEMPTED	MARKS
Question _____	/25



MERIDIAN JUNIOR COLLEGE
JC2 PRELIMINARY EXAMINATION 2018

9757/02

COVER SHEET

H2 ECONOMICS

Section A & B: Essay Question

Name: _____

Civics Group: _____

Register Number: _____

Tutor: _____

17 September 2018

2 Hours 15 Minutes

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QUESTION ATTEMPTED	MARKS
Question _____	/25



MERIDIAN JUNIOR COLLEGE
JC2 PRELIMINARY EXAMINATION 2018

9757/02

COVER SHEET

H2 ECONOMICS

Section A & B: Essay Question

Name: _____

Civics Group: _____

Register Number: _____

Tutor: _____

17 September 2018

2 Hours 15 Minutes

READ THESE INSTRUCTIONS FIRST

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WRITE down the question number you have attempted.

At the end of the examination, fasten this cover sheet to your answer scripts for the essay with the string provided before submission.

QUESTION ATTEMPTED	MARKS
Question _____	/25

Suggested answer scheme:

(a)	<p>(i) With reference to Table 1, compare the government expenditure per student on primary and university education in Singapore between 2010 and 2016.</p>	[2]
	<ul style="list-style-type: none"> • Similarity: Government expenditure per student on primary and university education both increased overall during 2010 to 2016. • Difference: <ul style="list-style-type: none"> - Expenditure per student on primary education has always been lower than that on university education. OR - The increase in expenditure per student on primary education is around 10 times more than that on university education. 	
	<p>(ii) Explain one possible reason for the difference observed in (a)(i).</p>	[2]
	<p>For 1st difference - The expenditure on university education on a per student basis has always been higher than that for primary education: The cost of university education has always been higher than that of primary education due to the need for research facilities and equipment, payment of salaries to professors (who are more highly trained/skilled and command higher wages), etc. However, university class sizes are smaller compared to primary schools, leading to a higher government expenditure per student on university education compared to primary education throughout the time period.</p> <p>OR</p> <p>For 2nd difference above - The increase in expenditure per student on primary education is more than that on university education: This may be because the government has perceived the extent of the market failure in primary education to be larger over the years. This is because the external benefit of primary education to the whole population is large compared to its private benefits, whereas the large private benefits of university education incentivise individuals to pursue higher education (Ext 2).</p>	
(b)	<p>With reference to Extract 2, explain how investment in human capital can ‘raise incomes for the whole economy’.</p>	[4]
	<p>Investment in human capital would mean increased spending on education and training of labour, which increases quality of labour due to productivity gains (Ext 2). This leads to an increase in productive capacity of the economy. As a result, the LRAS increases, leading to potential growth as full employment level of output increases.</p> <p>As the Singapore economy operates close to full capacity, AD is high enough. Moreover, the rise in G on education and training in the short run will cause AD to rise and be high as well. This causes the potential growth to be actualised. The increase in real output leads to firms hiring more labour and hence wages rise in the economy, leading to an increase in real incomes, which ‘raises incomes for the whole economy’.</p>	

(c)	Use the concept of opportunity cost to explain one possible effect on each of consumers of education and the US government due to the 'rising student debt levels' described in Extract 3.	[4]
	<ul style="list-style-type: none"> <i>Interpret rising student debt level:</i> The increase in price of university education in US has led to more students taking loans to fund their education. <i>Define opportunity cost (or embed definition in answer):</i> Opportunity cost refers to the highest valued alternative that is sacrificed when an option is chosen. <i>Effect of rising student debt levels on consumers of education:</i> With rising student debt levels, consumers of education (high-school students) have to make a choice between pursuing higher education or going to work, as suggested in Extract 3. If they choose to pursue higher education, the opportunity cost would be the income earned from working (next best alternative) that is foregone. OR With rising student debt levels, students have to choose to continue education and hence incur the debt or use the money to spend on other goods and services e.g. graduation holiday trip. Therefore, the opportunity cost of choosing to service the rising debt is the satisfaction from the graduation holiday trip that is forgone. <i>Effect of rising student debt levels on US government:</i> Rising student debt levels would mean that the government would need to raise the amount of financial aid to keep higher education affordable, as suggested in Extract 3. Thus, with a limited budget, the government would have less to spend on other sectors such as healthcare (next best alternative) when they choose to spend more on financial aid for university students. The opportunity cost would thus be the benefit to society from spending more on healthcare that is foregone. 	
(d)	Assess whether supply factors, rather than demand factors, are the key cause of rising price of university education in Singapore.	[8]
	<p><u>Identify supply factors:</u></p> <ul style="list-style-type: none"> <i>Ext 1: Increased labour costs, cost to university of owning and maintaining buildings, covering utilities and buying research equipment.</i> These would lead to a rise in unit COP, lowering profit per unit and hence causing producers to reduce qty supplied at every price. This leads to a fall in supply of university education. <i>Ext 1: subsidies on university education.</i> This leads to a fall in unit COP, thereby causing an increase in SS. Overall, supply of university education is likely to have fallen since the 'large' rise in labour costs along with other costs stated above may outweigh the effect of subsidies on university education, which are most likely increasing marginally by around 6% over the years based on the increase in govt spending per student (Table 1). <p><u>Identify demand factors:</u></p> <ul style="list-style-type: none"> <i>Ext 1: Singapore's median household income grew 10%.</i> 	

Table 2: increase in Singapore's GDP per capita.

These suggest an increase in incomes and hence purchasing power of consumers, increasing the demand for university education, assuming it is a normal good ($YED>0$).

- *Ext 2: A greater desire for personal fulfilment and increased desire to learn specialised skills.*

These would lead to a further rise in demand due to increased preference for higher education.

Thesis: Supply factors are more important than demand factors

- **[Fall in SS & MAP]** With the overall fall in supply of university education from S_1 to S_2 (Fig 1), at the initial price P_1 , there is a shortage of E_{1A} . This leads to an upward pressure on price. As price rises, quantity demanded starts to fall and quantity supplied starts to rise until a new equilibrium is reached at E_2 where the shortage is eliminated. At the new equilibrium, price has increased from P_1 to P_2 and quantity has fallen from Q_1 to Q_2 .

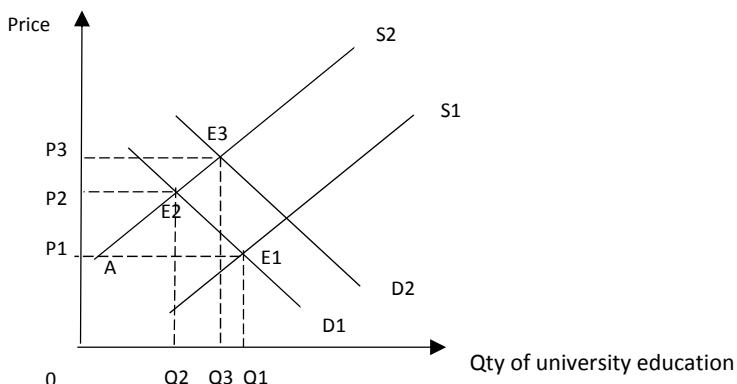


Fig. 1

- **[Rise in DD]** At E_2 , with the rise in demand for university education from D_1 to D_2 , the resultant shortage at P_2 leads to an upward pressure on price. At the new equilibrium E_3 , price has risen further from P_2 to P_3 and quantity increased from Q_2 to Q_3 .
- **[Overall impact of both shifts on price]** Both the fall in supply and rise in demand reinforce each other and lead to a rise in price of university education from P_1 to P_3 . This explains the 'jump' in price of university education mentioned in Ext 1.
- SS factors are more important in causing this increase in price because Ext 1 suggests increase in labour cost is a 'large' contributing factor, despite the subsidies. Coupled with the increases in other costs stated above, this would have caused a large fall in SS, leading to a large rise in price.

EV: However, the $PED < 1$ for education as it may be deemed as a necessity. With the fall in supply, the price of university education would rise to a larger extent compared to a situation whereby $PED > 1$. Hence, there is a sharp

increase in price with the fall in supply. **This implies that the demand factor of $PED<1$ is a very important cause of the rise in price, rather than the supply factor.**

- Moreover, $0<YED<1$ for education since it is considered a normal necessity. Thus, the rise in income leads to a less than proportionate increase in DD, implying that the fall in supply may be a more important factor that is driving the price up.

Anti-thesis: Demand factors may be more important than supply factors

- Ext 2 suggests there is a large increase in DD for higher education as there is a greater desire among young Singaporeans to opt for higher education. Coupled with the rise in demand due to the rise in incomes, the increase in demand may have played a large role in driving up the price of university education.

EV: **However**, $PES<1$ for higher education in the short run as it takes time to gather the necessary factor inputs such as skilled professors, land for building new campuses etc to respond to rising prices. Hence, compared to a situation where $PES>1$, the increase in dd will lead to a sharp rise in price due to the $PES<1$. **This implies that the supply factor of $PES<1$ is a very important cause of the rise in price, rather than the demand factor.**

Conclusion:

Overall, both demand and supply factors account for the large rise in price of university education by 38% (Ext 1).

[Ranking of supply and demand factors] However, Ext 1 suggests that 'large' rise in costs have led to the large rise in prices. Moreover, real incomes actually fell in Singapore as rise in household income of 10% is less than the rise in CPI of 25% (Ext 1), suggesting that supply factors in the form of rise in costs and $PES<1$ may have played a key role in causing the large rise in price of university education compared to the demand factors.

Mark scheme:

Level	Knowledge, Application & Understanding	Marks
L2	For a rigorous analysis of whether supply factors rather than demand factors are the key cause of rising price of university education, with good use of relevant case materials.	4-6
L1	For a descriptive explanation (lacking in economic linkages and analysis), with limited or no use of case materials. May contain conceptual errors.	1-3
Level	Evaluation	Marks
E	For an evaluation based on economic analysis and arriving at a judgement on whether supply	1-2

		factors are the key cause of the rising price of university education.		
(e)	Discuss whether Singapore should follow the US in lowering its higher education subsidies to better achieve the government's microeconomic objectives.		[10]	

Introduction

- Clarify “micro-economic objectives”
 - Efficiency in the allocation of a country’s limited resources
 - Equity in the distribution of a country’s resources

Anti - Thesis: Singapore should not follow US in lowering higher education subsidies

- Need to subsidise due to inefficiency in market for higher education (merit good):**

- The price mechanism fails to allocate resources efficiently in the market for university education as it is considered to be a merit good. Merit goods are goods that the government believes consumers will buy too few units if provided by the market because of information failure (under-estimation of the private benefits in consumption) and positive externalities in consumption.
- Information failure occurs in the consumption of university education as consumers underestimate the private benefits of consuming the good. For example, university education increases the productivity of individuals and leads to increases in employability and wages (Ext 2). Such increases in future income are uncertain and difficult to estimate accurately. Hence, this lack of information causes individuals to underestimate the private benefits of consuming education, as mentioned in Ext 2 as well. The perceived benefits of consuming the good (MPBif in Fig 2) are less than the true benefits of consuming the good (MPBpk).
- Consumption of higher education also generates positive externalities. Besides the private benefits, with productivity gains from higher education (Ext 2), there are also external benefits on third parties such as citizens who are neither producers nor consumers of university education but benefit from the raised incomes for the economy (as explained in (b) above) which help to create more jobs, lower poverty and crime rates (Ext 2), without compensation. As consumers are only concerned about their private benefits and costs, they ignore such external benefits and under-consume the good. Hence, as social benefit = private benefit + external benefits, the marginal social benefit curve (MSB) lies above the marginal private benefit curve (MPBpk) in Fig 2 below.

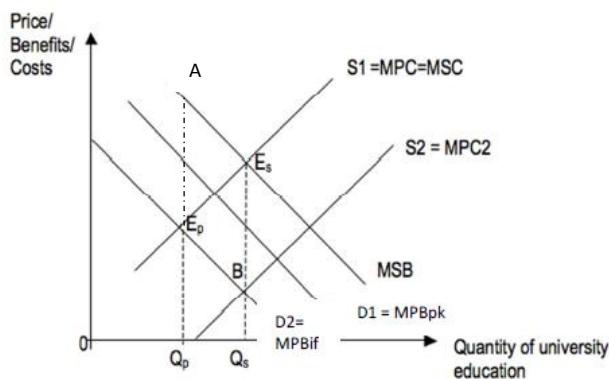


Fig 2

- Assuming no externalities in production, $S=MPC=MSC$. The social optimum occurs where $MSB = MSC$ at output level $0Q_s$ where society's welfare is maximized. The market equilibrium occurs where $MPB = MPC$ at output level $0Q_p$ where private welfare is maximized. Hence, there is an under-production and under-consumption of university education of $Q_s - Q_p$ units. This under-allocation of resources to the market leads to a loss of welfare to society, or a deadweight loss of area AEP_Es . Thus, there is market failure.
- [Analyse how subsidy works] As a result, there is a need for the govt to subsidise to ensure efficient allocation of resources. A subsidy per unit of $E_s - E_p$ (the divergence at the social optimum output level) provided by the government will lead to a fall in unit cost of production and hence a rightward shift in the supply curve from S_1 to S_2 , causing the new market equilibrium level of output (where $MPB_{if} = S_2$) to coincide with the social optimum level at $0Q_s$. The under-allocation of resources is corrected and the deadweight loss is eliminated, thereby eliminating the market failure.

EV: However, the extent of market failure is smaller for university education compared to primary education. As seen in part (a), the external benefit of primary education to the whole population is large compared to its private benefits, causing the government to spend more to make it more accessible. On the other hand, the large private benefits of university education incentivise individuals to pursue higher education (as suggested in Ext 2) and hence less government spending is required compared to primary education. Thus, the govt may not need to intervene as much in higher education through such large subsidies.

- Need to subsidise due to inequity:** Access to university education is a major issue in many countries and is subsidised for equity reasons as most countries consider education as a basic right or necessity. As income is unequally distributed, households with lower income may have problems affording basic education and especially university education, given that university education is usually more expensive. Given rising price of higher education in Singapore (as explained in part d), and US facing high student debt levels due to education being unaffordable (Ext 3), this leads to inequity. Hence, the market fails to allocate resources in a fair and just manner. This further justifies the need to subsidise to lower the market price rather than reducing subsidies.

EV: Ext 1 shows that price of university education has shot up. Besides equity concerns, given the nature of Singapore's economy where investing in human capital is essential for boosting competitiveness and ensuring higher growth and employment, higher education needs to be made affordable. Hence, it may not be appropriate for Singapore to follow the US in further reducing university subsidies in the midst of the rising price of university education.

EV: However, Gini coefficient is lower in Singapore than USA (Table 2). This shows that Singapore suffers from less income inequality and therefore less inequity in society as compared to the US and hence Singapore need not subsidise education as much.

Thesis: Singapore should follow the US in lowering higher education subsidies

1. Possibility of over-subsidy due to information failure of government:

It is justified to lower higher education subsidies in US and Singapore if there is a possible case of over-subsidy in the market for university education due to information failure of the government. Overestimation of positive externalities and imperfect information leads to over subsidised university education. This would lead to a situation of overproduction where the market produces at an output level that is higher than the social optimum, leading to an over-allocation of resources and hence allocative inefficiency. If this intervention by the government creates a greater welfare loss compared to the initial situation before intervention, government failure ensues. In such a scenario, it may be justified to reduce higher education subsidies as it would lead to a more efficient outcome.

EV: [Comparison of likelihood of information failure of govt in US and SG] US is a much larger country compared to Singapore in terms of geographical area. This may lead to a higher possibility of info failure of govt leading to inaccurate estimation of the amount of positive externalities and information failure generated in society, leading to inaccurate estimation of the amount of subsidy per unit to provide for higher education. Singapore being a smaller country may not face such a big issue of over-subsidy as compared to the US, making the above scenario less likely to occur.

2. Opportunity cost of spending on higher education: Ext 1 suggests that there is a need to spend on other areas besides university education due to ageing population in Singapore. Spending on large subsidies on university education may therefore lead to an opportunity cost in the form of the benefits to society of spending on other areas, such as healthcare and infrastructure for the elderly, that has to be sacrificed. This may lead to a possible misallocation of resources if the loss in benefits from spending on healthcare outweigh the benefits gained from spending on university education.

EV: However, Singapore has mostly faced a budget surplus (Fig 1) unlike the US which faced budget deficits. Thus, the above opportunity cost of spending more on university education despite such a budget constraint may be larger in the case of US. Hence, this may not be as big of a concern to the Singapore government.

Synthesis and Conclusion:

- Overall, there are definitely benefits of subsidising university education in terms of efficiency and equity. The extent of market failure and budget position in US could be the main reason why US is lowering higher education subsidies. Singapore is not facing the same budget constraint since we have budget reserves. Hence, the decision on whether Singapore should follow the US in reducing university subsidies requires us to weigh the possible benefit and cost that could arise as a result.
- However, keeping in view that income inequality is relatively lower in Singapore compared to the US and the extent of market failure at university level may be considered smaller compared to lower levels of education, reduction of university subsidies in Singapore may be justified on the whole. Moreover, given the increasing needs in other sectors especially with the ageing population (Ext 1), it may be more appropriate to use needs-based subsidies such as those mentioned in Ext 3 so as to achieve greater equity while ensuring the government is able to allocate its resources to other areas that are in urgent need of attention.

Mark scheme:

Level	Knowledge, Application, Understanding & Analysis	Marks
L2	Thorough explanation using relevant economic concepts of whether Singapore should follow the US in reducing higher education subsidies, with reference to relevant case materials.	4-7
L1	Descriptive explanation with limited or no reference to relevant case materials. May contain conceptual errors.	1-3
Up to 3 additional marks for evaluation		
E2	Well-explained judgement on whether it is justified for Singapore to reduce higher education subsidies like the US.	2-3
E1	For unexplained judgement or mere statements without elaboration.	1

2018 JC2 H2 Economics Prelim_CSQ2_Suggested answers

(a)	With reference to Table 4, compare the changes in GDP between Germany and the UK from 2015 to 2017.	[2]
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Similarity:

GDP of both Germany and the UK increased from 2015 to 2017.

Difference:

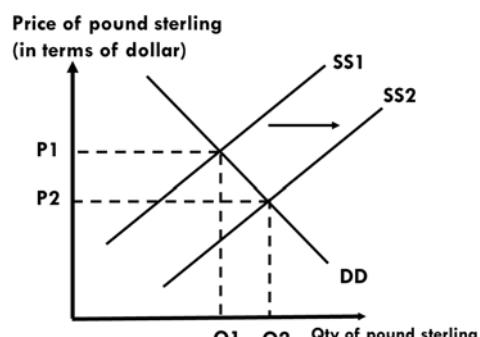
However, Germany's GDP was increasing at an increasing rate, while the UK's GDP was increasing at a decreasing rate.

(b) (i)	Using a diagram, explain why the pound sterling fell in value after UK had voted to break out of the European Union.	[2]
----------------	---	------------

As mentioned in Extract 4, breaking out of the European Union was a "lurch into the unknown", which could give rise to loss in investors' confidence in the economy.

Explain impact on SS of pound sterling in forex market:

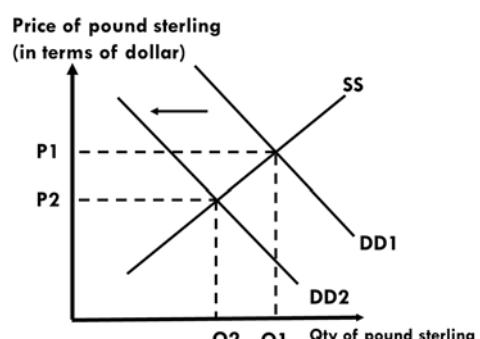
This would cause capital outflow from the UK, leading to an increase in supply of pounds in the foreign exchange market, hence reducing the external value of the pound sterling.



OR

Explain impact on DD for pound sterling in forex market:

This would cause a fall in capital inflow into the UK, leading to a decrease in demand for pounds in the foreign exchange market, hence reducing the external value of the pound sterling.



(b) (ii)	Explain whether the depreciated pound sterling would lead to a higher cost of living and standard of living in the UK.	[6]
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Depreciated pound sterling → fall in price of exports in F.C but increase in price of imports in D.C

Impact on cost of living

If consumers consume a large quantity of imports, the increased price of **final** imported goods and services will mean that cost of living will increase.

OR

If UK firms import significant amount of raw materials from overseas, this will cause imported inflation and hence, increase their unit cost of producing domestic final

2018 JC2 H2 Economics Prelim_CSQ2_Suggested answers

goods, hence, causing SRAS to fall, leading to increases in GPL. Hence, cost of living increases.

Impact on material SOL

Assuming marshall-lerner condition holds ($PED_x + PED_m > 1$), net exports will increase as seen from “boosted exports orders for manufacturing”(Ext 6) → assuming there is spare capacity in the economy → increase AD will result in increase in real output → national income increases by a multiplied amount → increase in quantity of goods and services consumed → increase material standard of living

Explain “whether”: Comment on the extent of change

Material SOL may have worsened instead if the rise in general price level is faster than the increase in national income.

(c)	Explain a likely advantage to the foreign firms for locating their businesses in Ireland.	[2]
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Cost advantages

Locating businesses in Ireland will enable foreign firms to tap into the large EU market and sell to a larger market as inferred from “jumping off point for their European ambitions” (Ext 5). Such increase in market size in turn enable it to produce larger quantity, reaping economies of scale, hence enjoying lower average cost and higher profit, ceteris paribus.

Or

Access to good “technological infrastructure” and “leading services” (ext 5) can enable foreign firms to gain greater productivity if these translate to greater output produced per hour with lesser disruptions to internet connection etc, hence enjoying lower average cost and higher profit, ceteris paribus.

Revenue advantages

Being able to sell to a larger market means that foreign firms will be able to gain larger increases in demand for their goods and services, resulting in increases in total revenue and hence profits, ceteris paribus.

(d)	In light of the issues faced by the UK, as mentioned in Extract 3, evaluate the Bank of England’s decision to cut interest rate.	[8]
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Issues faced by UK: Extract 3: “Inflation is surging, consumer spending is slowing, productivity remains mired in pre-crisis growth levels, and uncertainty reigns supreme”

Explain how decrease in interest rate works

Decreases in interest rate → decrease cost of borrowing → more firms will be willing to invest → Investment level increases

The fall in the cost of borrowing would also result in an increase in consumption expenditure on big ticket items as consumers would have the ability to purchase items on credit.

Decrease i/r: Ability to address the various issues faced by UK

(Students should address at least 2 problems mentioned below.)

1. “Slowing consumer spending”

The lowered cost of borrowing will therefore help to address the ‘slowing consumer spending’ and hence help to contribute to economic growth.

The increase in both consumption and investment expenditure would result in an increase in UK’s aggregate demand as $AD = Cd + I + G + X \rightarrow$ shortage created \rightarrow firms run down inventories \rightarrow upward pressure on GPL \rightarrow incentive for firms to ↑output to meet demand \rightarrow real output in economy has increased, leading to actual growth.

2. “Inflation is surging”

The decrease in interest rate may cause hot money outflows, hence, causing pound to depreciate further. This would worsen inflation rates as explained in part bii. However, this maybe a temporary impact as pound may strengthen after the situation on Brexit has stabilised.

3. “Uncertainty reigns supreme”

However, given that ‘uncertainty reigns’ \rightarrow the extent of increase in Cd and I will be smaller as consumers are more likely to withhold consumption given uncertainty in their employment and firms are also likely to withhold investment levels given the uncertainty in UK’s economic outlook after Brexit \rightarrow policy will be ineffective in raising economic growth, if this is the intent of the UK govt.

4. “Productivity remains mired in pre-crisis levels”

Also, whether the decrease in interest rates will help to increase productivity in UK depends on the type of investment that the firms will undertake given the cheaper cost of borrowing. Given that it is rather incidental; the effectiveness of the policy is likely to be very low.

Conclusion

[evaluate UK’s decision] UK’s decision to cut interest rate is ineffective given that it is less likely to address any of the above problems. With uncertainty as the biggest problem, therefore, increases in AD is likely to be low.

More importantly, weak productivity is likely to be a main concern and area for the UK govt to focus on as UK leaves the EU. It needs to increase its competitiveness in order to prevent greater loss of FDIs out of UK as a result of foreign firms that used to locate in UK to have access to the larger EU market.

[suggest alternative policies] This can also help to reduce the uncertainty on UK’s future economic outlook. Therefore, the UK govt should start looking at implementing ss-side policies instead.

Level	Knowledge, Application, Understanding and Analysis	Marks
L2	For a well-explained answer on decreasing interest rate to address at least 2 macroeconomic problems faced by UK.	4-6

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	L1	For a limited explanation (lacking in economic linkages and analysis) on decreasing interest rate to address the macroeconomic problems faced by UK.	1-3	
	Evaluation			
	E1	For an evaluation based on economic analysis and case materials arriving at a judgement on UK's decision to cut interest rate.	1-2	

(e)	With reference to the data where appropriate, assess whether on balance, the benefits of Brexit outweigh the costs for UK and the remaining EU member countries.	[10]
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Introduction:

The decision to leave the EU will give rise to both benefits and costs to the UK as well as the remaining EU member countries. However, whether the benefits outweigh the costs for the UK and the remaining EU member countries depends on a few factors.

(Note: Students should at least discuss 1 cost and 1 benefit for UK and EU respectively.)

Development 1: Explain the impacts of Brexit on UK

Benefits of Brexit to UK

1. Impact on export revenue of the economies

One major and immediate impact on the UK after the Brexit vote was a depreciation of the pound sterling against the dollar (Extract 4), which was explained in (b)(i). This will lead to an increase in price of exports for the UK in foreign currency, as well as a decrease in price of imports in pound sterling. Assuming the Marshall-Lerner condition holds, where $(PED_x + PED_m) > 1$, this leads to an increase in $(X - M)$ and hence AD. There is an increase in real output and hence actual growth in the UK. As mentioned in (b)(ii), this may lead to an increase in material SOL.

2. Impact on govt's contribution to the EU budget

Given that the UK is a net contributor to the EU budget, contributing up to £11.3 billion in 2013 (Extract 4), Brexit would mean that the UK government doesn't need to contribute to the EU budget in future and could use the funds to stimulate their own economy. For example, the government could now use the funds to build infrastructure in the UK, giving rise to an injection via increased G in the UK economy. This will lead to an increase in AD, and hence actual growth in the UK economy and improvement in material SOL due to rising incomes and greater purchasing power and access to goods and services. Depending on which area the government spends on, for e.g. if they spend on education and healthcare, there could also be improvement in non-material SOL.

Costs of Brexit to UK

1. Impact on migration and the labour force

One of the main arguments for those in favour of Brexit was with regard to the migration of labour from other EU countries. Moving forward, if the UK were to cap immigration (Extract 7), there could be some consequences on their economy. Firstly, with these migrants now returning to their own countries, the UK's labour force shrinks and this could give rise to a fall in productive capacity, illustrated by a fall in the AS curve. This results in a fall in future material SOL as inflationary pressures may persist with any increases in AD given a lower AS curve.

EV: However, this cap on immigration could also bring about some benefits to the UK. With lesser migrants in their country, the quality of life of the remaining citizens (and hence non-material SOL) may improve since issues like congestion will be reduced given the smaller population size.

2. Impact on level of FDI

Given that the EU single market was a major factor in attracting FDI into the UK (Extract 7), now that the UK is preparing to leave the EU, they would no longer have access to the single market as before. As mentioned in Extract 7, FDI may be diverted to other EU countries now, instead of the UK. The UK faces a fall in FDI and this leads to a fall in AD and hence negative growth. The fall in FDI could also lead to a fall in the UK's AS curve as well, if the rate of increase in FDI does not outweigh the rate of depreciation of capital. This causes a fall in the UK's productive capacity in the LR.

Development 2: Impacts of Brexit to EU members

Benefits of Brexit to EU members

1. Impact on level of FDI

Given that the UK is no longer seen as a viable destination for FDI (Extract 7), there could be diversion of FDI to the remaining EU member countries. This will cause an increase in AD in the SR and AS in the LR for these countries, causing actual and potential growth.

Costs of Brexit to EU members

1. Impact on export revenue of the economies

As it is predicted that there could be a possible reintroduction of tariffs (Extract 7), where the UK imposes tariffs on goods from the remaining EU countries, the UK will import less from the other EU member countries as compared to before when the UK was still part of the EU and they enjoyed free trade. Given a fall in import expenditure by the UK for these countries goods, they will then experience a fall in export revenue and hence a fall in AD. This causes negative economic growth and rising unemployment → fall in material SOL.

EV: However, the extent of fall in X and AD for the remaining EU members depends on how close they were to the UK as trading partners. For instance, Extract 7 suggests that Ireland could be more severely affected compared to Germany, especially because Germany has diversified its trading partners and has "many other markets" for its auto and manufacturing sector. Hence, even with the lack of free trade with the UK, Germany can still generate export revenue through the sale

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of exports to other countries. That said, Ireland has actually been able to enjoy higher growth rates than the UK and the EU as a whole from 2015 to 2017 (Table 4), so it could mean that they have been able to generate growth through other means apart from export revenue to the UK.

2. Impact on govt's contribution to the EU budget

Since the EU's biggest contributor to its budget (i.e. the UK) has voted to leave the EU, the remaining EU member countries would now have to "fill in some of the shortfall from a lack of its contributions" (Extract 7). This is estimated to be up to 19.4 billion euros in total, with a large amount contributed by Germany of about 2.5 billion euros. This would mean that the governments of those countries would incur an opportunity cost in terms of the loss in benefits from not spending that sum of money on areas such as healthcare or education in their own economies. The larger their contribution is to the EU budget (e.g. for countries like Germany), the larger the opportunity cost incurred.

3. Impact on migration and the labour force

If the UK were to cap migration, migrants from other EU countries who used to be in the UK will now have to return back to their countries. As mentioned in Extract 7, countries in eastern Europe (e.g. Poland, Romania) will suffer the most as they have the most number of citizens in the UK. With the large numbers of migrants returning home, assuming if they are low-skilled workers, this will cause the supply of low-skilled labour in those countries will increase, driving down wages in their labour market. There could also be large scale unemployment which could bring about increased social problems and increased burden on government budget should these governments have to provide unemployment benefits for these returned unemployed migrants.

EV: However, migrant workers maybe also be of higher skillsets. If so, they can contribute to a more productive workforce and hence increase productive capacity (rightward shift of AS) → potential growth.

Conclusion:

[Answer the question] Evaluate whether benefits outweigh the costs:

For the UK, whether or not the benefits outweigh the costs would depend on whether the government is able to put in place appropriate policies to deal with the potential loss in FDI as well as the fall in productive capacity. For instance, if the UK is able to develop the right infrastructure to attract FDI (e.g. like Ireland, in Extract 5), the fall in FDI may not be so significant despite them not being a part of a large EU single market. In addition, should the government be able to adopt appropriate supply-side policies to increase productivity in the economy, in spite of the cap on immigration which would lead to a fall in the quantity of labour, the quality of both labour and capital can more than make up for it and hence still allow for an increase in the productive capacity of the UK's economy in the LR. This is especially possible since the UK govt's contribution to the EU budget can now be reallocated for such a purpose.

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For the remaining EU members, whether or not the benefits outweigh the costs depend on the closeness they are to the UK as trading partners and whether they are able to diversify their trade to depend on other economies now that free trade with the UK is no longer possible after their departure. Also, while the UK has now left the EU, making the remaining member countries more attractive to FDI since they are still part of the single market offered by the EU, the extent to which they can benefit from increased FDI also depends very much on their own attractiveness as a destination for FDI. For e.g., Ireland is an attractive destination for FDI and would probably be able to attract much of the existing FDI in the UK over given their “natural advantages” (Extract 5).

Level	Knowledge, Application, Understanding and Analysis	Marks
L2	Explanation of the benefits and costs of Brexit on the UK as well as on the remaining EU member countries with thorough economic analysis, making explicit links to macroeconomic goals as well as SOL	5-7
L1	Explanation of the benefits and/or costs of Brexit on the UK and/or the remaining EU member countries, which may or may not include clear reference to the macroeconomic goals or SOL	1-4
Up to 3 additional marks for evaluation		
E2	Application of relevant economic concepts to make a judgment on whether the benefits of Brexit outweigh the costs for both the UK as well as the remaining EU member countries	2-3
E1	Unexplained judgment on whether the benefits outweigh the costs for the UK and/or the remaining EU member countries	1

Essay Q1

1	Due to scarcity, resources have to be allocated between competing uses. For instance, farmers in India are increasingly allocating more land to growing cotton instead of tea leaves. Such decisions may be influenced by fast-changing clothing trends.	
(a)	Explain how the price mechanism can allocate scarce resources efficiently with increasing demand for a product.	[10]
(b)	Given these farmers' decision on the use of their land, assess the relevance of elasticity concepts in explaining the impact on consumers' expenditure on tea and other beverages.	[15]

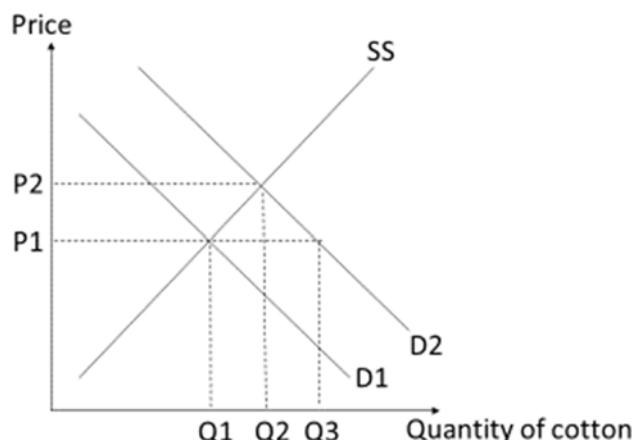
Part (a): Explain how the price mechanism can allocate scarce resources efficiently with increasing demand for a product. [10]

Intro

The central economic problem of scarcity arises due to limited resources and unlimited wants. As society cannot have all the output it desires, choices have to be made by consumers and producers. The price mechanism is the process in a market economy where consumers and producers interact to determine the allocation of these resources among competing uses.

Development: Roles of the price mechanism

Prices perform two key roles which are the **signalling function** and **rationing function**.



[Signalling Function]

Consumers use prices to signal to producers their changing preferences and ability to buy goods and services. Price is the value consumers place on for each unit of good consumed. Producers use prices to signal to consumers their ability and willingness to produce each unit of good. Producers are profit motivated and will charge prices which maximize their profits.

Adjustment process

Assume that there is perfect competition and there are no externalities. Referring to the figure above, the initial equilibrium is where demand (D_1) = Supply (SS) and price will be at P_1 and quantity will be at Q_1 . Given that there is now an increase in demand for cotton, it means that there are more dollar votes cast for cotton. Demand will increase from D_1 to D_2 . At initial price P_1 , a shortage of Q_1Q_3 is created. This causes an upward pressure on price.

This will signal to producers to allocate more resources to increase production to Q2 due to possibility of earning greater profits, thus quantity supplied increases from Q1 to Q2.

In the long run, the increase in price may lead to increase in producers entering the market, resulting in an increase in supply and even more resources like land allocated into the market for cotton.

What to produce

Hence, higher prices signal to producers what they need to produce and lower prices signal what need not be produced. Producers allocate more resources to the market of cotton. Resources like land used to produce tea leaves are reallocated to produce cotton. Hence, price mechanism determines what to produce in the market.

How to produce

In the market for cotton, producers are in competition with each other for the dollar votes of the consumers. Consumers will buy from producers which offer the lowest price. So producers must produce at lowest cost if they are to survive in the market in the long run, creating incentive for firms to adopt the least cost method of production. This thus determines how goods are produced. Changes in the goods market will then be reflected in the factor markets. Demand for resources in cotton industry like land and labour will rise. There will thus be a transfer of resources from other industries like tea leaves into the cotton industry.

[Rationing]

Prices also serve to ration goods and services to consumers who are willing and able to pay. The amount of goods purchased depends on their income, prices and preferences. Producers will only supply goods and services to those who are willing and able to pay while those who are unable or unwilling to pay will be driven out of the market.

For whom to produce

With reference to the diagram, as price of cotton increases, there is a decrease in quantity demanded from Q3 to Q2. Consumers who are unwilling or unable to purchase cotton will be rationed out of the market. Hence, price also determines for whom to produce.

Conclusion/Synthesis

In a market economy, prices have a signalling and rationing function, which helps to allocate resources efficiently. However, in reality, price mechanism may fail to allocate resources efficiently due to imperfect competition or presence of externalities.

Mark scheme:

Knowledge, Understanding, Application, Analysis		
L3	For an answer that gives a clear economic analysis on the functions of the price mechanism in terms of resource allocation between goods and factor markets for cotton.	8-10
L2	Underdeveloped answer or an inadequate attempt to explain the functions of the price mechanism in terms of resource allocation between goods and factor markets. OR Only explains in detail either function of the price mechanism.	5-7
L1	For an answer that demonstrates some relevant knowledge or brief description on the functions of the price mechanism.	1-4

Part (b): Given these farmers' decision on the use of their land, assess the relevance of elasticity concepts in explaining the impact on consumers' expenditure on tea and other beverages. [15]

Intro

From part (a), farmers are likely to allocate more land to the production of cotton rather than tea leaves. Since these two goods are in competitive supply, less tea leaves will be produced at every price, resulting in a fall in supply and increase in price of tea leaves.

Development 1: Relevance of PED in the market for tea

Since tea leaves are a factor of production for tea, unit cost of production for tea increases. Potential profits per unit falls, and profit motivated producers will cut down on production of tea at every price. As SS for tea decreases, equilibrium price increases and equilibrium quantity decreases. The change in consumers' expenditure is dependent on the relative changes in price and quantity. This can be determined by the price elasticity of demand.

Price elasticity of demand (PED) measures the degree of responsiveness of quantity demanded of a good to a change in the price of the good itself, ceteris paribus.

Price elasticity of demand for tea = % change in quantity demanded of tea / % change in the price of tea

The numerical sign of the price elasticity of demand for normal goods is necessarily negative due to the inverse relationship between the price and quantity demanded of the good.

Assuming $PED > 1$: the demand for tea is **price elastic** i.e. for a given **increase in the price of tea**, there will be a **more than proportionate fall** in the quantity demanded, ceteris paribus. This is possible in the case whereby tea is deemed to have many close substitutes available such as caffeinated beverages like coffee and coke. Consumers are very responsive to price increase as they can easily switch to purchasing other readily available substitutes. Thus, the increase in consumers' expenditure due to increase in price is less than the decrease in consumers' expenditure due to the fall in quantity demanded. Overall, consumers' expenditure will decrease.

Assuming $PED < 1$: the demand for tea is price inelastic i.e. for a given **increase in the price of tea**, there will be a **less than proportionate fall** in the quantity demanded, ceteris paribus. This could be a case of heavy tea-drinkers who deem tea to have no close substitutes. In this case, consumers' expenditure increases.

Hence, PED is very relevant in determining changes in consumers' expenditure in the market for tea.

Development 2: Relevance of XED & PES in the market for other beverages

As price of tea increases, consumers may switch to relatively cheaper substitutes like coffee and other beverages, increasing the demand for these beverages. As demand increases, equilibrium price and quantity increases.

Price elasticity of supply (PES) measures the degree of responsiveness of quantity supplied to a change in the price of good, ceteris paribus.

Price elasticity of supply for good A = % change in quantity supplied of beverage/ % change in the price of beverage

The PES value is positive because of the direct relationship between price of the good and the quantity supplied of the good itself.

Assuming PES>1: the supply for the beverage is **price elastic** i.e. for a given **increase in the price** of the good, there will be a **more than proportionate increase** in the quantity supplied of the good, ceteris paribus. This could be in the case of beverages such as caffeinated can drinks with preservatives such as coffee and soft drinks which have a longer shelf-life and can be stored cheaply with minimum loss of quality. Given the availability of stocks, firms can easily increase their output to the market by drawing down on their inventories when price goes up.

Assuming PES<1: the supply for the beverage is **price inelastic** i.e. for a given **increase in the price** of the good, there will be a **less than proportionate increase** in the quantity supplied of the good, ceteris paribus. This would be applicable for substitutes like fresh fruit juice that have short shelf life and cannot be stored for long.

While PES tells us the relative changes in price and quantity, regardless of PES value, consumers' expenditure will increase in this case as price increases and quantity increases. The increase in consumers' expenditure, is also highly dependent on the extent of the shift in demand for other beverages, hence XED may be more relevant than PES.

Cross elasticity of demand (XED) of other beverages with respect to the price of tea measures the degree of responsiveness of demand of another beverage to a **change in the price of tea**, ceteris paribus.

Cross elasticity of demand of another beverage with respect to the price of tea
= % change in demand of another beverage/ % change in the price of tea

The numerical value of cross elasticity of demand may be positive or negative. In the case of other beverages in relation to tea, the XED value is **positive** as they are **substitutes**.

The magnitude of the value of the cross elasticity of demand indicates the extent of the relationship.

Assuming XED>1: the cross elasticity of demand for the beverage is elastic i.e. a **given increase in price of tea** leads to a **more than proportionate increase in demand for the substitute**. This is possible for close substitutes such as coffee which also contains caffeine and can be deemed to achieve similar level of satisfaction for consumers. Demand increases by a large extent, resulting in a large increase in equilibrium price and quantity for coffee, hence consumers' expenditure increases by a large extent.

Assuming 0<XED <1: the cross elasticity of demand for the beverage is inelastic i.e. a **given increase in price of tea** leads to a **less than proportionate increase in demand for the substitute**. Such substitutes could include decaffeinated beverages like fresh fruit juice and bottled water. Hence, consumers' expenditure is likely to increase by a small extent.

Therefore, XED is a key determinant of the change in consumers' expenditure for other beverages.

Development 3: Relevance of YED in the market for tea and other beverages

Income elasticity of demand (YED) measures the degree of responsiveness of demand of a good to a change in income, ceteris paribus.

Income elasticity of demand = % change in demand of a good/ % change in income

The numerical value of income elasticity of demand may be positive or negative. Inferior goods have negative income elasticity of demand i.e. as income increases the demand for the good falls, ceteris paribus.

On the other hand, beverages like tea are considered as normal goods with positive income elasticity of demand i.e. as income increases the demand for the good increases, ceteris paribus. If deemed as a luxury good, **YED>1** and demand is income elastic i.e. for a given **increase in income**, there will be a **more than proportionate** increase in the demand of the good. The demand for luxury goods is **income elastic**. If deemed as a **necessity**, **YED<1** and demand is income inelastic i.e. for a given **increase in income** there will be a **less than proportionate** increase in the demand of the good.

In this context, as there is assumed to be no change in income, YED is least relevant in determining changes in consumers' expenditure in the markets for tea and other beverages.

Conclusion/Synthesis:

Theoretically, the PED of tea is most relevant in showing the effects a decrease in supply on consumers' expenditure on tea. The increase in demand for alternative beverages suggests that XED is most relevant in determining the extent of increase in consumers' expenditure for different substitutes. However, in reality, elasticity data may not be accurately computed. In addition, internal changes (e.g., firm learns more cost-effective methods of production) or changes to the firm's external environment (e.g., more substitutes to the firm's products appear in the market) may occur. Therefore, such data may also change from time to time, making it harder to rely upon and therefore less relevant to determine the changes in consumers' expenditure.

Mark scheme:

Level	Knowledge, Understanding, Application , Analysis	Marks
L3	Well-developed analysis of the changes in the markets for tea and other beverages, with application of different elasticity concepts to clearly demonstrate relevance.	8-10
L2	An underdeveloped analysis of the relevance of various elasticity concepts. OR Limited scope of elasticity concepts/markets considered in analysis.	5-7
L1	For an answer that shows some knowledge of changes in the market and/or elasticity concepts. Mere listing of points and definitions.	1-4
E3	<i>Provides analytically well-reasoned judgement on the relative relevance of elasticity concepts in determining changes in consumers' expenditure on different beverages.</i>	4-5
E2	<i>Makes some attempt at a judgement on the relative relevance of elasticity concepts in determining changes in consumers' expenditure on different beverages.</i>	2-3
E1	<i>Gives an unsupported statement on the relative relevance of elasticity concepts.</i>	1

Discuss the extent to which government failure is the main factor that a government should consider when addressing the various sources of market failure. [25]

Introduction

Market failure occurs when the free market fails to allocate resources efficiently and equitably. There are various sources of market failure that is externalities, market dominance, income inequality, factor immobility and missing markets.

Based on the various sources of market failure, government intervention is deemed necessary to overcome the problem of inefficiency and inequity so that the microeconomic objectives of the government are attained. However, in some circumstances, government intervention aimed at solving the problem create greater inefficiencies which outweigh the benefits of government intervention. This is government failure, an unintended consequence of government intervention. The likelihood of government failure is influenced by the availability of information and the constraints, that is, whether government has the ability to finance the policy. There are also other factors that could influence government decision to address market failure. The extent of market failure and the nature of the economy will determine the severity of the problem and whether government intervention is necessary.

Development

Students need to consider the likelihood of government failure as well as other factors that go into a government decision when it addresses specific sources of market failure.

1. Explain 2 sources of market failure
2. What contributes to govt failure → The need for intervention and type of intervention in the market (i) information failure [intended and unintended consequences as a result of intervention] (ii) efficiency due to the lack of profit motive
3. Other factors (i) severity of the market failure (ii) Nature of the economy

Source of market failure	Factors	Elaboration
Externalities [E.g. Negative Externalities in Production due to industrial production]	Government Failure	<p><i>Likelihood govt failure → The need for intervention and type of intervention in the market (i) information failure [intended and unintended consequences as a result of intervention]</i></p> <p>Need for government intervention: Negative Externalities in Production - industrial production that result to carbon emission → pollution reduces air quality which increased risk of respiratory problems → divergence of costs curve [MSC > MPC] → overallocation of resources → taxation required → socially optimal level achieved</p> <p>(i) Unintended consequences of govt intervention due to the lack of information available</p>

		The lack of information → i) overestimation of externalities, i.e. MEC → Result to overtaxation that do not bring about positive outcomes in reducing pollution. → ii) PED values unknown → inability for producers to measure the exact amount of taxes This could bring about inequity in resource allocation.
	Severity of market failure	Due to increase in temperature and climatic changes due to global warming, it is evident that industrialisation has brought about huge negative externalities in production, increasing the severity of market failure.
	Nature of economy	It is important to reduce negative externalities in production due to industrial production. This improves quality of economy and hence productivity of workforce and our infrastructure. This allows Singapore to remain attractive as a destination for Foreign Direct Investments which is essential for a small economy that is reliant on FDI.
Public Goods [National Defence]	Government Failure	<p><i>Likelihood govt failure → The need for intervention and type of intervention in the market (i) information failure [intended and unintended consequences as a result of intervention] (ii) efficiency due to the lack of profit motive</i></p> <p>Need for government intervention: Characteristics of Public good → National Defence → Explain features of non-excludability and non-rivalry and how it results to missing market</p> <p>Unintended consequences of govt intervention</p> <ul style="list-style-type: none"> (i) The lack of information → no expression of demand so government may overestimate the demand required → result in overprovision of public goods → govt failure (ii) Inefficiency of state-owned enterprise given the absence of profit and competition → higher cost with direct provision <p>Government may run into budget deficits when addressing the issue which pose a strain on government budget. It may not be feasible if the government is already accumulating fiscal debts.</p>
		Severity of market failure Large because there are no goods that will be provided by the free market.
	Nature of economy	Being a small country that is vulnerable to external threats, there is a need for strong defence to ensure continued survival.
Factor Immobility	Government Failure	<i>Likelihood govt failure → The need for intervention and type of intervention in the market (i) information failure [intended and unintended consequences as a result of intervention]</i>

		<p>Need for government intervention: Factor immobility (occupational immobility) → productive and allocative inefficiency → underallocation of resources → Education to increase labour mobility to expanding industry</p> <p>Unintended consequences of govt intervention due to the lack of information available</p> <p>The lack of information i) Government may identify the wrong industries to develop because it is difficult to gain comparative advantage in production due to the dynamic changes in comparative advantage → workers who undergo training will be redundant because skills are no longer relevant to the expanding industry.</p> <p>ii) Furthermore, there might be time lags and the skills acquired will be obsolete by the time workers are being train because it takes a long time for workers to pick up the skills. → labour mobility may not improve</p> <p>iii) The receptivity of the workers cannot be predicted accurately → training may not improve workers' skills if workers are not receptive → labour mobility may not improve</p> <p>All these poses a strain on government budget. The government need to consider her budget position and only commit if they can afford it on a sustainable level.</p>
	Severity of the problem	<p>Besides inefficiency, factor immobility <u>brings about inequity</u>, another source of market failure. This adds on the severity of the problem.</p> <p>It causes structural unemployment → conflict with macro goals</p>
	Nature of the economy	<p>Labour is a key resource in SG → hurt country export competitiveness and also how attractive SG is for FDI.</p>
Market Dominance	Government Failure	<p>Need for government intervention: Market dominance → large market share → market power → i) ability to set prices such that price is greater than marginal cost → underallocation of resources due to allocative inefficiency</p> <p>Unintended consequences of govt intervention due to the lack of information available</p>

		The lack of information → law enforcers may lack the high level of technical knowledge required to understand the nature of the business for a fair verdict to be passed → too much competition is introduced → making it difficult to enjoy the advantages of internal economies of scale
	Severity of the problem:	<ul style="list-style-type: none"> (i) Types of goods – If the goods sold are necessities, the extent of market failure will be larger (ii) Contestability of market – If markets are contestable due to the advancement in technology or globalisation, there will be potential threat of competition which reduces the inefficiency by firms.
	Nature of the economy:	Singapore has a small and open economy that is bound to international competition. Bearing the characteristics of an open economy, together with the recent trends towards globalization and signing of FTAs → increased competition of SG firms in the international economy → more competition will result in greater efficiency in terms of allocation of resources → less need for government to intervene in the area of market dominance
Conclusion		
<p>Government will need to consider various factors when tackling the sources of market failure, which includes government failure as explained above. This is undergirded by the availability of information on the source of market failure (root cause of the problem), as well as the constraints before government can pinpoint on the best policy that could minimise government failure. With the information at hand, government will need to weigh the benefits and cost of the intervention and only intervene if benefits outweigh the costs of intervention. The government will also need to be mindful of the internal and external changes that will affect factors that government need to consider when tackling the sources of market failure. For instance, with increased globalisation, the problem of market dominance is less severe due to increased competition.</p> <p>Depending on the source of market failure, the most important factor may differ. For instance, for public goods such as national defence, Singapore's small land size and vulnerability of external threats is the main factor why government needs to provide national defence rather than considering government failure. However, it is important for the government to try to reduce the possibility of government failure by ensuring it has more information, and to ensure that there is greater efficiency for state owned enterprises which will bring about less unintended consequences such as excessive government spending which will affect the government budget.</p> <p>Hence, in the above case, government failure may be a key factor <u>only to a small extent</u> when a government decides on addressing the market failure.</p>		

Level	Description	Marks
L3	For an answer that uses appropriate analysis to explain the 2-3 factors which affect government decision in tackling 2 sources of market failure. Answers should include why government might need to intervene in at least 2 source of market failure, considered the degree of effectiveness of one intervention from each source of market failure, how government failure will affect the choice of policy.	15 – 20 (18)
L2	For an answer that gives analytical explanation of 1 factor accompanied with many descriptive explanation of the other factors which affect government decision in tackling 2 sources of market failure OR analytical explanation of 3-4 factors of decision making framework which affect government decision in tackling a source of market failure.	9 – 14 (12)
L1	For an answer that shows some knowledge of government failure or cost and benefits that governments consider when making decision on policies taken to tackle market failure.	1 – 8 (5)
E3	For an answer that uses analysis to support an evaluative appraisal of the determinants and decide whether government failure is the key factor for government consideration.	4-5
E2	For an answer that makes some attempt at an evaluative appraisal of the determinants	2-3
E1	For an unexplained evaluative statement	1

Answers for Essay Question 3

Disruptive technologies include the advent of e-commerce retailing which has led to consumers buying cheaper products online rather than going to a physical location.

- (a) Explain how survival of firms is affected by disruptive technologies. [10]
- (b) Discuss whether increasing competition faced by large retail firms is desirable for the society. [15]

Part a) Explain how survival of firms is affected by disruptive technologies. [10]

Introduction

- A firm's survival is dependent on whether they are able to cover its variable costs in the short run and long run. If they are unable to do so, they will not survive and will need to shut down and exit the industry.
- Define short run – time period with at least one fixed factor and long run – time period with all factors that are variable.
- Disruptive technology could allow more competition on firms and firms can also tap on the technology to differentiate itself and gain larger market share.
- In this essay, we will look at the impact of more competition as consumers turn to online platforms stated in the preamble.

Development 1 – Analysis of disruptive technology on firm's profit

- Disruptive technology reduces demand of goods and services from physical retail outlets because prices of goods and services from online store are relatively cheaper. Demand will also be more price elastic because there are more substitutes that are available.

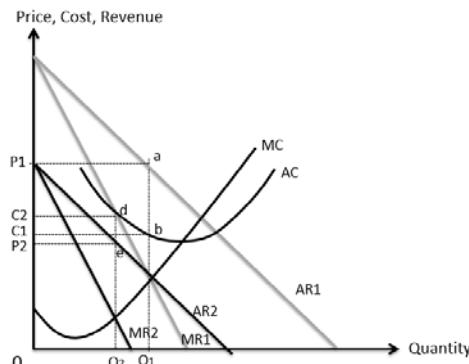


Figure 1: Impact of disruptive technology on firm

- Initially, the firm maximizes profits at $MC=MR_1$ at output Q_1 . When output is less than $0Q_1$, the revenue gained is greater than the cost for an additional unit of good, profits increase with higher output. The converse holds true. Producing one more or one less unit will lead to a fall in total profit.
- Disruptive technology \rightarrow \downarrow demand \rightarrow $\downarrow AR \rightarrow$ may result in subnormal profits ($AR < AC$) where profits have fallen from supernormal profits of P_1abC_1 to P_2edC_2 .

[Note] However, disruptive technology may prove opportunity for firms to tap on large markets through e-commerce and hence demand may increase.

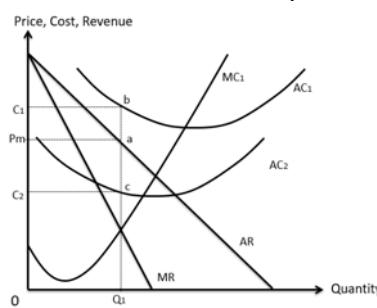
- As explained earlier, firms will consider their variable costs to decide if they are able to survive.

Development 2 – Survival of Firm in SR

- A firm will survive in the short run if its average revenue is able to cover its average variable costs.
- In the short run, a firm incurs both fixed and variable costs.
 - Fixed costs are incurred regardless of the level of output produced by a firm. Even if a firm produces no output i.e. shuts down it will still incur fixed costs.
 - Variable costs are incurred based on the level of production.
 - Provide examples of fixed and variable costs.
- The assumption is that the firm's AR have fallen to an extent that it is making subnormal profits. The firm is also assumed to be a profit motivated firm which intends to minimise its loss.
- A firm cannot survive and will shut down if $AR < AVC$
 - If $AR < AVC$, choosing to shut down would mean that the firm only makes a loss equal to its fixed costs. However, if a firm chooses to continue production, the firm would not only incur fixed costs, but it would also incur part of the variable costs. The loss incurred by the firm would be the fixed costs and part of the variable costs as the revenue can only cover part of the variable costs.
 - Thus, a firm's loss is minimised by choosing to shut-down when $AR < AVC$
- A firm will survive as long as $AR > AVC$
 - If $AR > AVC$, choosing to continue production would mean that the loss would be equal to only part of the fixed costs as the revenue is able to cover not only the variable costs but also part of the fixed costs. This would a smaller loss compared to shutting down which would incur a loss equal to the fixed costs.
- However, if $AR = AVC$, a firm may be indifferent to shutting down in the SR. Choosing to shut down or continue production would incur the same loss.

Development 2 – Exit of Firm in LR

- In the long run, the firm may decide to close down and exit the industry if they make losses.
- In the long run, there are no fixed costs as all factors are variable.
- A firm will exit the industry if $AR < AC \rightarrow$ subnormal profits



- If $AR \geq AC$, a firm is either making normal profit or supernormal profit. A firm is earning to at least cover its total costs and will continue to remain in the industry.
- If $AR < AC$, the firm will make subnormal profits (reference the diagram). Profit motivated firms will choose to exit the industry.

Conclusion

- With disruptive technology, firms may suffer from subnormal profits due to falling demand. In the short run, the firm will survive as long as $AR > AVC$. In the long run, the firm will need to ensure that $AR > AC$ to survive.

MARK SCHEME

L1	Some knowledge of impact of disruptive technology on firms and how survival of firms are affected but it is largely assertive.	1 – 4m
L2	Analytical explanation of impact of disruptive technologies on firms and how survival of firms will be affected in the short run OR long run with some descriptive points.	5 – 7m
L3	Analytical explanation of impact of disruptive technology on firms and how survival of firms is affected in the short run AND long run by linking to the shutdown conditions.	8 – 10m

(b) Discuss whether increasing competition faced by large retailers is desirable for the society. [15]

Introduction

Define retailers: **Retailers** refer to business units or shops which sell goods or services directly to consumers. Examples of retailers in Singapore include shops operating in large shopping malls or in housing (HDB) estates.

With disruptive technology, it allows markets to operate in an environment near perfect information, e.g. Facilitates greater price transparency, quicker access to information for firms and consumers to make comparisons on price and non-price aspects of a products. Furthermore, it also enables firms to be more contestable by reducing the barriers to entry. Hence, this intensify competition between firms in an industry.

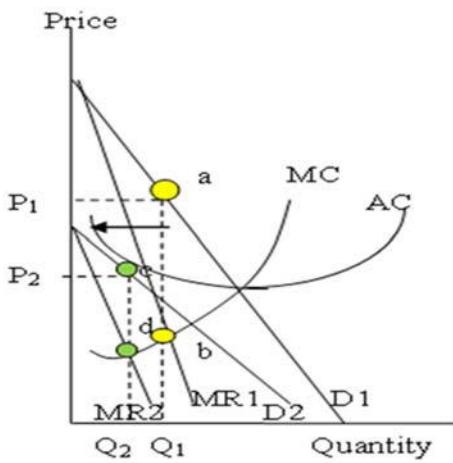
The essay analyses whether increasing competition is desirable for the society by analyzing the impact on consumers (lower prices, greater choices, consumer's surplus), producers (profits) & government (efficiency & equity).

Extra information: In Singapore, there are a large number of small and medium enterprises such as hair salons, apparel shops, food and beverages and consumer electronics shops which fit into monopolistic competitive structure. However, there are large retailers in some of the industries which exhibit the characteristics of oligopolies such as supermarkets such as NTUC, Diary Farm (Cold Storage and Giant), Sheng Siong, petrol stations such as Shell, Esso, SPC and Caltex, fast fashion retailers that multiple chains countrywide and worldwide such as H&M, Zara and Topshop. These firms are faced with high barriers to entry resulting to a few large firms with large market share in the industry and are mutually interdependent where they can choose to compete and collude.

Yes, increasing competition faced by large retailers may be desirable for the society because

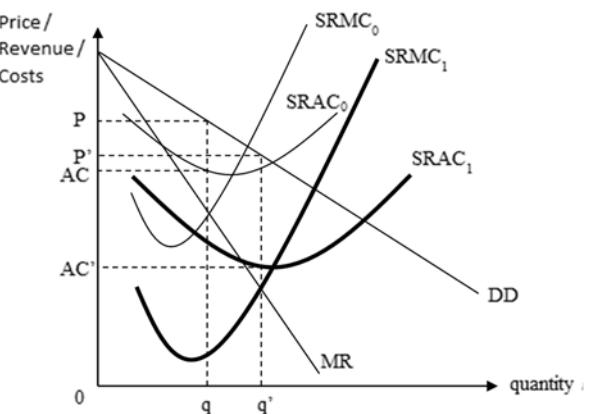
No, increasing competition faced by large retailers may not be desirable for the society because

1. Reduce market power



With greater competition, more firms enter the market → lower firm's market share and thus ability to restrict output & charge higher prices → The demand curve facing the oligopolist falls and becomes relatively more price elastic (due to the presence of greater

1. Loss of EOS leading to higher unit cost incurred and thus higher prices for consumers.



A large retailer is able to enjoy internal EOS from larger scale production but a smaller firm does not. This is because the larger retailer is able to practice specialization of labour (e.g. customer service, cashier duties etc) hence enjoying technical EOS. Also they are able to

<p>close substitutes in the market) → as such prices fall from P1 to P2 → improvement in consumers' welfare</p> <p>Moreover, with more firms entering the market, there will be a greater range of products that will be offered to consumers → improvement in consumers' welfare</p> <p>2. Firms would be less allocative inefficient</p> <p>Firms are allocative efficient when they are producing the right amount of the right type of good, where $P = MC$</p> <p>With greater competition in the supermarket → The demand curve facing the oligopolist falls and becomes relatively more price elastic as shown in diagram above → reduces degree of market power → lesser ability to restrict output and raise prices above MC → underproduction will be lower → less allocative inefficient → improvement in society's welfare</p> <p>EV: Can consider an oligopolistic firm that is currently operating in a contestable market. The threat of potential competition would result in these firms behaving in a competitive manner and thus would be less allocative inefficient to begin with.</p> <p>3. Proliferation of innovative products and services</p> <p>With more competition due to ↓BTE → firms would have greater incentive engage in product development (self-checkout kiosks and mobile pay) → increase in firm's dd & TR → consumers get to enjoy better quality products → improvement in consumers' welfare</p> <p>EV: However, firms may be restricted to invest in R&D due to the lesser ability to retain supernormal profits in the LR due to lower demand from increased competition. Thus, while they may be willing to do so, they may lack the ability.</p>	<p>purchase goods in bulks and enjoy bulk discounts, therefore enjoying marketing economies of scale. Producers will face higher unit cost of production from SRMC1 to SRMC0 and hence lower profits. Furthermore, producers may transfer the higher cost to consumer through higher prices from P' to P → consumers' welfare compromised.</p> <p>2. Lack of product development and innovation due to lower profits retained in the LR</p> <p>With increased competition, it will make it easier for new firms to enter the market when existing supermarkets are earning supernormal profits in the SR → weakened ability to earn supernormal profits in LR → Less funds available for R&D activities → there will be less product development and lower quality products for consumers → Lack of dynamic efficiency → consumers' welfare is compromised, firms also get to enjoy lower profits level too</p> <p>EV: However, the lower profits retained in the LR would reduce income inequality as lesser profits will be distributed amongst the shareholders.</p> <p>3. Increased unemployment should large retailers shutdown → structural unemployment</p> <p>With increased competition, firms will face lower demand and hence lower total revenue. If total revenue is less than total costs, firms will make losses and shut down. When this happens, demand of labour falls and this causes unemployment. These unemployed workers are unable to take on jobs in the expanding industry due to skills mismatch, this result in structural unemployment. The scale of unemployment is great because of the size of the industry.</p> <p>EV: However, this depends on how fast the workers can pick up new skills in the expanding industry. The extent of unemployment will be less significant if the extent of skills mismatch is small.</p>
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Conclusion (answer the question): Whether increased competition would bring about greater benefits to the society?

With increased competition by retailers, it brings about benefits of increasing allocative efficiency, greater equity and variety to the consumers however producers will face the costs of higher costs because minimum efficient scale may not be attained and lower profits.

Different stakeholders will experience the benefits and costs differently. It depends on the nature of the industry. If firms face substantial high fixed costs, the minimum efficient scale is large, it may be more ideal for firms to have lower competition to harness the benefit of being large. With increased competition, average costs increase and this will cause higher prices to be charged, if $P > MC$ then it is not desirable to have increased competition. An example will be petrol retailers in Singapore where substantial EOS need to be reaped at higher output.

However, the degree of competition may not be excessive as this will result to wastage of resources. Relative to a smaller firm, a monopoly would spend less on advertising since it is already established in the market. Smaller firms, such as those under a monopolistic competitive industry tend to spend more on persuasive advertising in order to make their demand curve more inelastic to augment their limited monopoly power.

To ensure that market power is not abuse for firms that have lower competition, there is a need for government to intervene to ensure that there is fair competition and also to minimise the disruption of technology to the economy.

MARK SCHEME

L1	Some knowledge of the impact of increased competition on society.	1 – 4m
L2	Descriptive explanation of reasons for and against the increased competition in supermarkets OR Analytical one-sided answer explaining reasons for or against increased competition for supermarkets	5 – 7m
L3	Analytical explanation of reasons for and against increased competition in supermarkets with consideration on the impact of different agents (consumers, firms and government) in the society.	8 – 10m
E1	Unsubstantiated judgement on whether more competition should be encouraged for supermarkets.	1m
E2	Substantiated judgement on whether more competition should be encouraged for supermarkets based on 1 criterion.	2 – 3m
E3	Substantiated judgement on whether more competition should be encouraged for supermarkets based on 2 criterion which includes consideration of the Singapore context with relevant contrasting examples.	4 – 5m

2018 JC2 H2 Prelim Essay Q4

Discuss the extent to which trade-offs in macroeconomic objectives will arise when the Singapore government allows its currency to appreciate. [25]

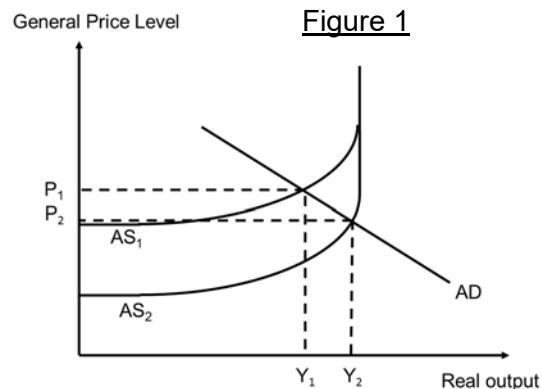
Suggested Answer:

Introduction:

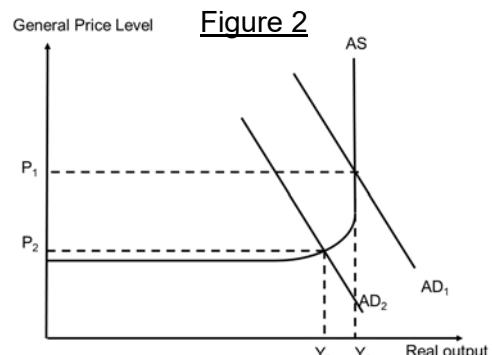
The use of exchange rates is a significant tool to help Singapore achieve her economic goals. Through exchange rate policy, the Singapore government is able to control its inflation, which in turn will make her exports competitive and attract FDIs.

Development 1: Explain the intended outcome of an appreciation of the SGD i.e. explain how appreciation works to lower inflation rate in SG

In SG, a modest and gradual appreciation is used by the Monetary Authority of Singapore (MAS) to mitigate against imported inflation. This is important as Singapore has a high marginal propensity to import and a modest appreciation would thus place emphasis on the addressing of imported inflation first. To deal with rising prices from the global commodity markets, a stronger SGD will reduce the cost of imported raw materials that is expressed in terms of local currency, thus possibly offsetting the rise in price of these raw materials in foreign currency. This lowers the unit cost of production significantly and increases supply of goods and services. If many individual market supply curves increase, then SRAS increases from AS₁ to AS₂ as shown in Figure 1, causing GPL to fall, thus tackling the problem of imported cost-push inflation. In addition, the appreciation also causes imported final goods and services to be cheaper in terms of SGD, and also increases competitive pressure for domestic firms to keep prices low. These overall aim to lower domestic inflation rates in SG.



The appreciation of the SGD can also help to curb demand-pull inflation. With an appreciation of the SGD, price of exports in foreign currency rises and price of imports in domestic currency (SGD) falls. Assuming PED_x>0 in SG's case, there will be a fall in demand for exports, and hence export revenue measured in SGD. At the same time, since PED_m<1 for SG, the fall in prices lead to a less than proportionate increase in quantity demanded for imports, causing a fall in import expenditure. If the Marshall-Lerner condition holds, where (PED_x+PED_m)>1, this will decrease net



export revenue ($X-M$) and aggregate demand (AD), ceteris paribus. Marshall-Lerner condition holds for Singapore because the demand for Singapore's export is price elastic (i.e. $PED_x > 1$) due to the wide availability of substitutes for Singapore's exports. While this further helps to manage inflation through a lowering of the AD and hence GPL (lowering demand-pull inflation), it also in turn leads to lower real output.

However, the appreciation of the SGD will mean that export competitiveness is compromised. This is because Singapore's exports, being expressed in SGD, will now require more foreign currency to be exchanged for them given the stronger SGD.

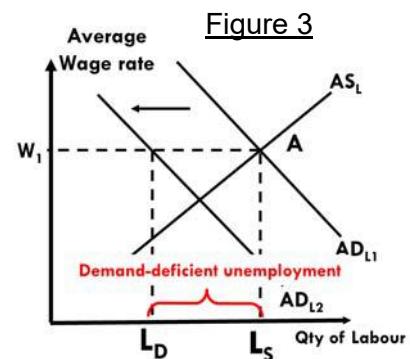
Development 2: Explain the trade-offs (at least 2) that occur as a result of appreciating the SGD

Show that while an appreciation of the SGD can lower cost-push and demand-pull inflation, it may worsen BOP, cause negative growth and increase demand-deficient unemployment in SG

While the main intent of the appreciation of SGD is to address imported inflation, it can also address demand-pull inflation, as explained above. While the appreciation may successfully reduce inflation rates in Singapore, there are potential trade-offs with the government's macroeconomic objectives.

Firstly, the appreciation of SGD may worsen Singapore's balance of trade and hence balance of payments. With higher prices of exports measured in foreign currency and lower import prices measured in domestic currency, assuming the M-L condition holds, as explained earlier, $(X-M)$ falls. Assuming the trade balance were in equilibrium, where $(X-M) = 0$, a fall in $(X-M)$ would lead to a deficit in the trade balance and hence BOP, ceteris paribus. This causes a **trade-off with the goal of a healthy BOP, should the deficit in the BOP be large and persistent.**

Secondly, while the fall in $(X-M)$ and hence AD leads to a lowering of demand-pull inflation, assuming the economy is producing with spare capacity, the fall in AD thus leads to a fall in real output, causing negative economic growth. As a result, firms are likely to decrease the derived demand for labour. Aggregate demand for labour (AD_L) decreases, and assuming that there are sticky wages at W_1 due to contractual agreements, there is increased demand-deficient unemployment of L_{DL} . The appreciation of the SGD to achieve low and stable inflation thus causes a **trade-off with the other goals of high and sustained growth as well as low unemployment.**



Development 3: Explain the factors that influence the extent to which trade-offs will occur

[Linking to the question] The extent that trade-offs occur depends on the extent to which the X and (X-M) falls, and this is in turn affected by a few factors, which will be explained in the next part.

Note: Students should explain and evaluate about 2-3 factors

Factor #1: Reliance of the economy on imported inputs

Even though the appreciation leads to higher export prices, which threatens SG's export competitiveness, when the SGD is allowed to appreciate, imported factor inputs become cheaper in SGD. With cheaper imported factor inputs, the cost of production falls and this translates into cheaper prices of final goods. As a result, the effect of the appreciation on export prices in foreign currency may be partially offset by the cheaper prices of final goods produced. Export prices due to the appreciation may not rise as significantly, bringing about a smaller fall in demand for exports and export revenue. **[Link to question]** In light of this, there is a smaller extent to which trade-offs with the other macroeconomic goals will occur when an appreciation is used to lower GPL.

EV (consider the nature of SG's economy): Given that SG is resource scarce and therefore reliant on imported inputs in the production of goods, the appreciation will hence have a significant impact on the extent of trade-off due to the fall in X. The loss in export competitiveness caused by the stronger currency will bring about a more significant offsetting effect due to the fall in the cost of production and the extent of trade-off will be to a much smaller extent for Singapore.

OR

EV (consider the nature of exports in SG): However, if a large proportion of Singapore's export revenue is contributed by exports in services, then the trade-off with a healthy BOP may be more significant. This is because in industries which export services, a relatively smaller proportion of its inputs would be imported and hence, these industries benefit less from the appreciated SGD in the form of cheaper inputs. The higher export prices due to the appreciation would lead to a significant fall in export revenue, hence giving rise to a more significant trade-off where the deficit in the BOP could be greater.

Factor #2: Whether the M-L condition holds

Whether or not the appreciation of the SGD leads to a fall in (X-M) and hence worsen the trade balance as well as lower AD depends on whether the Marshall-Lerner condition holds. In the short run, the PED_X and PED_M may not be greater than 1 due to existence of contractual agreements between SG and its trading partners. Hence, when there is an appreciation of the SGD, (X-M) increases in the short run, before decreasing later on. As a result, since (X-M) increases, the appreciation of the SGD doesn't actually lead to a worsening of the trade balance or negative growth and demand-deficient unemployment in the short run but instead, may in fact promote an improvement in the trade balance and allow for actual growth. **[Link to question]** As such, the shorter the time period, the higher the likelihood that the M-L condition does not hold and thus, the smaller the extent to which trade-offs with other macroeconomic goals will occur.

Factor #3: Size of the appreciation and characteristics of the SG economy

The size of the appreciation also matters. [Link to question] The greater the extent of the appreciation, the larger the impact on (X-M) is and hence the larger the impact on the trade balance as well as AD. This will cause a greater likelihood for trade-offs with the three other macroeconomic goals to occur.

Also, given the small and open nature of SG, the (X-M) component in AD is relatively significant. Hence, any changes to (X-M) will cause significant changes to AD and hence, real output, via the multiplier process. [Link to question] Given that this is the case, the likelihood and extent of trade-offs will be much greater since SG is an open economy, with a high trade-to-GDP ratio.

EV (consider the likelihood that there will be a large extent of appreciation): However, given that the Monetary Authority of Singapore (MAS) generally pursues a modest and gradual appreciation of the SGD. There is a lot of careful consideration of the impacts the appreciation would bring on other aspects of the economy by the MAS in their pursuit of such a policy. In light of this, the extent of trade-offs due to an appreciation is less likely.

Factor #4: State of the global economy (i.e. external factors that influence X)

There are also factors that are not within the control of the SG economy in determining the extent to which the appreciation of the SGD will lead to trade-offs in other macroeconomic goals. For e.g. should there be strong economic growth worldwide, there could be rising incomes which causes higher purchasing power of SG's trading partners' for SG's exports. In light of that, even though SG appreciated its currency which will reduce demand for SG's exports, the higher incomes worldwide may increase the willingness of other countries to import from SG, thereby increasing our export revenue and hence AD. A stronger currency therefore causes a fall in export competitiveness by a small extent, assuming that the global economy demand is strong. Thus there may only be a slight fall in AD and the negative impact on actual growth and employment may be limited. [Link to question] The greater the increase in incomes due to worldwide economic growth, the smaller the extent to which the appreciation of SGD leads to trade-offs with the other three macroeconomic goals.

EV (consider how likely other economies will impact SG's economy): The extent to which this factor influences the extent of trade-off is dependent on the closeness of the trading partners to SG. Should there be rising incomes in SG's closest trading partners, then the extent of trade-off will be much lesser, compared to a case where rising incomes are observed in economies which are not as close to SG as a trading partner.

Factor #5: Whether the SG government puts in place other policies to achieve the other macroeconomic goals (i.e. other policies to increase AD/ improve export non-price comp.) Note: Explaining one policy will suffice.

Other policies may also be pursued simultaneously with an appreciation to achieve other macroeconomic goals as well.

Supply-side policies: For e.g. supply-side policies (e.g. subsidies for investment in R&D for product innovation) may also improve the non-price competitiveness of exports from SG. Hence, in spite of the lower price competitiveness of SG's exports due to the appreciation, the non-price competitiveness of the exports may still result in a high demand for it and hence, still allow for an increase in X and AD overall. As such, the appreciation may not necessarily lead to a trade-off with the goals of a healthy BOP, as well as economic growth.

OR

Expansionary FP: For e.g. expansionary fiscal policy may be employed to boost domestic demand so as to achieve actual growth. As such, even with the appreciation of the SGD which has effects like lowering the AD through lowering external demand and causing negative growth, the use of an expansionary FP to boost domestic demand may offset the fall in AD, and should the injection of G be significantly larger than any fall in X due to the appreciation, overall AD may rise and bring about an increase in real output instead. Hence, there may not necessarily be negative growth and demand-deficient unemployment when the SGD is allowed to appreciate, if there are other expansionary demand-management policies put in place at the same time.

[Link to question] Hence, the more there are alternative policies put in place to complement the appreciation of SGD in promoting high export demand, and the more successful these policies are, the smaller the extent to which trade-offs with other macroeconomic goals will occur given an appreciation of the SGD.

EV (consider how useful the policies are): However, this depends largely on the success of the policies. Given that efforts in R&D and innovation take time and may not always reap positive outcomes, the use of supply-side policies may not necessarily allow for improved export competitiveness. The impact of an appreciation may still hurt export competitiveness and the trade-offs brought about may still be significant.

Conclusion [show ranking of factors]:

The use of an appreciation may result in trade-offs between certain macroeconomic objectives, but these trade-offs do not always occur as it depends on various factors, the most important one being, whether or not the M-L condition holds. This is because this condition has a direct impact on the success of the policy to address inflation, in particular, demand-pull inflation. Overall though, given that the MAS generally pursues an appreciation of the SGD that is modest and gradual, there will not be large increases to the external value of the SGD and hence, the extent to which trade-offs occur will be much lesser.

Nevertheless, in order to minimise conflicts in government's objectives, the use of supply side and trade policies should be implemented to ensure that the demand for her exports remains strong with a larger export market and greater improvement in the quality of her exports. The focus on raising productivity is also important to maintain Singapore's competitiveness. These policies will be able to offset further some of the loss in exports competitiveness when Singapore adopts a strong exchange rate policy.

Level	Knowledge, Application, Understanding and Analysis	Marks
L3	Clear analytical explanation of various trade-offs and the factors that influence the extent of the trade-offs, in the context of Singapore	15 – 20
L2	Description of trade-offs that occur as a result of an appreciation of the SGD and some factors that influence the extent of the trade-offs OR analytical explanation of at least 2 trade-offs that occur as a result of an appreciation of the SGD and at least 1 well-explained factor which considers the extent of trade-off	9 – 14
L1	Knowledge of how an appreciation of the SGD works to address macroeconomic goals in SG (i.e. to tackle both cost-push (imported) inflation as well as demand-pull inflation) i.e. explanation of the intended outcome of an appreciation of the SGD.	1 – 8
	Allow up to 5 additional marks for Evaluation	
E3	For an answer that arrives at an analytically well-reasoned judgment on the extent to which trade-offs in macroeconomic objectives occur when there is an appreciation of the SGD.	4-5
E2	For an answer that makes some attempt at evaluating or for a conclusion that answers the question but does not explain the judgment or base it on analysis.	2-3
E1	For an answer that gives an unsupported evaluative statement.	1

JC2 H2 Prelims Question 5

(a) Explain the process whereby an increase in government expenditure can lead to a bigger change in national income. [10]

(b) In view of rising government debts, discuss whether governments' subsidies to increase its global competitiveness is justified. [15]

Suggested Answer to Part A

Introduction

Identify the process as Multiplier process and state the multiplier and its formula:

This is the multiplier process, where any increases in injection, e.g. government spending, will cause national income to increase by a multiplied amount of the rise in G. This is determined by the size of the multiplier, k, where

$$k = 1 / 1 - \text{Marginal Propensity to Consume (MPCd)}$$

$$= 1 / \text{Marginal Propensity to Withdraw (MPW)}$$

A small MPW will mean that a small proportion of additional income is allocated to withdrawals such as savings, taxes and import expenditure in the economy, therefore the size of the multiplier will be large, resulting in a large multiplied increase in national income.

Explain the underpinning of the multiplier process:

For instance, a country like U.S. will have relatively higher rate of consumption due to well-developed social security systems hence less incentive to save.

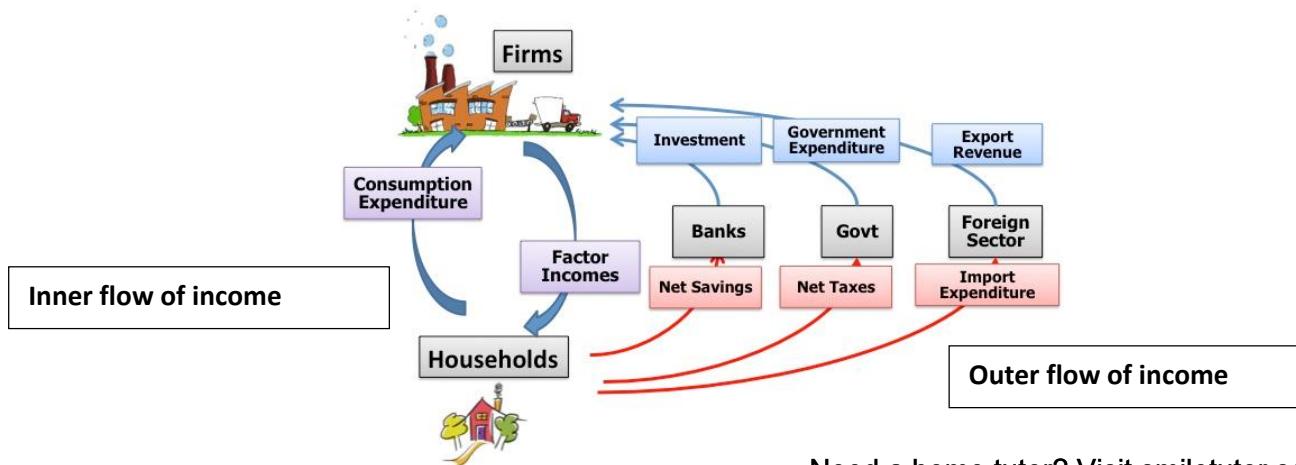
This means that given an amount of injection, lesser income is leaked away as withdrawals while a larger proportion of additional income is spent on domestic consumption in each round of spending. This means that every round of the inner flow results in larger rounds of induced consumption. This results in a larger multiplied increase in national income.

Development

Explain the multiplier process:

Let us assume a four-sector economy with an MPC of 0.9. It is assumed to be initially in equilibrium and spare capacity is available in the economy.

Briefly Explain the CFoI, role of HHs and Firms: In the inner flow there are 2 key sectors, the households and the firms. The role of the households is to supply factors of production e.g.



land, labour, capital and entrepreneurship to the firms in return for factor income. This income is then used to purchase goods and services or be withdrawn from the inner flow as savings, taxes and import expenditure. The role of the firms is to produce goods and services which households will exchange for consumption expenditure.

Explain trigger(s):

An injection is an addition to the circular flow of income which does not come from the expenditure from domestic households. In this case, the Increased spending by the government could be spent to improve public infrastructure.

Explain multiplier effect:

[Round 1] When \$10bn of government spending is spent on infrastructure upgrading → construction firms will have to increase their output by a value of \$10bn. This means that they will have to hire FOP such as skilled workers and machinery. HHs that supply factor inputs to these industries will hence receive \$10bn worth of income. Given the MPCd is 0.9, they will spend 90% of it on goods and services such as food. Domestic consumption will increase by \$9bn. \$1bn is withdrawn from through savings, taxes and imports.

[Round 2] Firms in the food industry will thus to increase their output by a value of \$9bn. This means that they will have to hire FOP such as labour and machinery to manufacture food. As the HHs working in the food industries receive \$9bn worth of income, they will spend 90% of it on goods and services such as clothing. Domestic consumption will increase by \$8.1bn. \$0.9bn is withdrawn from through savings, taxes and imports.

[Conclude] The process continues with each round of consumption expenditure being 90% of the previous rounds income. This process does not go on indefinitely and it stops when the value of the initial injections (or total injections) is equal to the sum of the withdrawals.

As $k=1/\text{MPW}$, $k=1/0.1 = 10$

Change in NI = change in injection $\times k = \$10\text{bn} \times 10 = \100bn

National income would have increased by a multiplied amount of \$100bn.

Level	Knowledge, Application, Understanding and Analysis	Marks
L3	Detailed and analytical explanation of the impact of increased government spending on a country's national income with a clear understanding of the working of the 'k' process	8-10
L2	Some analysis of the impact of increased government spending on a country's national income.	5-7
L1	Unexplained statements of the multiplier process, largely lacking in analysis.	1-4

(b) In view of rising government debts, discuss whether governments' subsidies to increase its global competitiveness is justified. [15]

Suggested Answer to Part B

Introduction

In this essay, we will define global competitiveness in terms of

- increasing price competitiveness of a country's exports
- increasing non-price competitiveness of a country's exports

(Students may also define global competitiveness in terms of the ability to attract FDI)

Thesis: Governments' subsidies to increase its global competitiveness is justified

Development 1:

Governments' subsidies to increase its global competitiveness can be implemented through supply side policies to:

1. increase non-price competitiveness

With the use of better technology and machinery to harness better designs and quality of exports produced → this can help to increase non-price competitiveness → demand of exports will increase and at the same time, become more price inelastic due to the reduced substitutability to other competitors' goods

2. increase price competitiveness

Policies directed at SMEs and capital enhancement through funding of research and incentives to innovate. E.g. Productivity and Innovation Credit Scheme resulted in capital accumulation which takes the form of capital broadening & capital deepening.

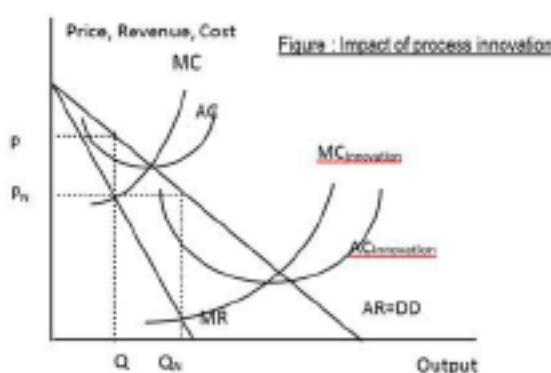
E.g. Through the Productive Innovation credit, firms enjoy tax deduction or cash reimbursement for the retraining of workers, investing in automation or acquiring intellectual property.

Economic analysis version 1: firm analysis

By encouraging automation, if export-related firms are likely to increase their investment spending on capital goods such as automated equipment and this might be used to replace labour as machine might be able to increase the output per hour especially for repetitive task.

On the other hand, use of retraining to equip workers with new skills can increase labour productivity as workers are more able to work with more efficient technology etc. this helps to further increase output per manhour.

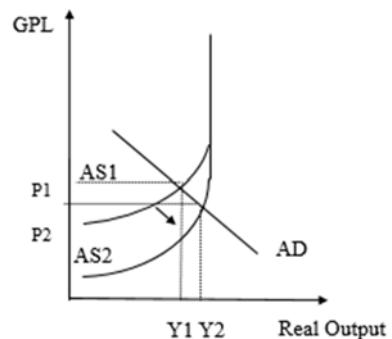
The above will help to lower unit cost of production, lowering average and marginal cost of the firm, resulting in lower prices charged at PN. Price competitiveness of exports produced increases. Assuming $PED_x > 1$, a fall in price will lead to a more than proportionate increase in quantity demanded, hence, increasing export revenue.



OR

Economic analysis version 2: macro. level analysis

If these policies are conducted across all industries, the increase in productivity will lead to lower unit cost of production, increases in aggregate supply from AS1 to AS2, hence, GPL falls from P1 to P2. Price competitiveness of goods including exports will increase. Assuming $PED_x > 1$, a fall in price will lead to a more than proportionate increase in quantity demanded, hence, increasing export revenue.



Development 2:

Use of subsidies is justified as there are positive impacts of increased competitiveness on the macroeconomy

- Increase X → increase AD → increase actual growth and hence, increase material standard of living, given that consumers will have higher incomes and hence greater ability to consume more goods and services
- On the other hand, with increases in real output produced this will increase the aggregate demand for labour → decreasing demand-deficient unemployment which can also improve non-material standard of living → with more individuals being able to find jobs and receive income → less financial difficulties met will lead to decreased crime rates → increases the safety and security in the neighbourhood → improve quality of life
- Both domestic and foreign investments can increase as foreign firms may also be attracted to tap on the new expertise → increase AD & AS → increase non-inflationary sustained growth
- The increase in net export revenue and greater net inflow of foreign investments will also improve current account balance(if initially in a deficit) and hence balance of payments
- The increase in economic growth in the later time period would help to raise tax revenues, as workers would be able to contribute to higher tax revenues with higher income levels and firms would be able to pay higher corporate taxes with higher profits earned. This would be helpful to pay off government debts.
- EV: If the improvement in economic outlook brings about sustained increases in export revenue and FDI levels, this can allow the government to receive a stable increasing stream of corporate and personal income taxes, which can help to offset any existing government debts.

Anti-thesis: Governments' subsidies to increase its global competitiveness is not justified in view of rising government debts

Limitations of ss-side policies

However, the outcomes of these supply side policies are often uncertain because it depends on the receptivity of the firms and workers towards these schemes. Firms might be unwilling to allow their workers to engage in training as they might lose these workers after the training, if these workers chose to be employed by other firms. Traditional companies might also be

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unwilling to adopt automation and choose to stick to their labour intensive methods. Therefore, the extent of increase in AS is limited, which reduces the effectiveness of the policy. (judgement) If the outcomes on productivity is minimal, then this will also represent a wastage of government resources which could have been spent for financing the government debt in the current time period.

Consequences of rising government debts

In view of rising government debts, this spending on supply-side policies may then result in more government borrowing and hence, this could lead to a crowding out effect, where the increased demand for private loans pushes up the interest rate, resulting in a fall in private investments. This fall in I would lead to a fall in AD, negating the effect of increase AD due to the fiscal boost. With a smaller increase in AD, this will lead to a smaller increase in actual growth.

Furthermore, the increased government borrowing would mean government debts will worsen

→ government will have to increase taxes in the future to repay the government debts (elaborate any further outcomes below)

- This will lower the proportion of future income that can be spent on consumption → lower future material SOL
- increase disincentive to work → lower labour productivity → decrease in output per manhour → productive capacity decreases → AS shifts to the left → fall in potential growth & actual growth
- decrease credit rating (assessment of the creditworthiness of a borrower in general terms or with respect to a particular debt) of the country as investors are less confident of returns of their investments in the country → reduce foreign investments into the country → worsen economic recovery / dampen economic growth [SR effect]

EV: Efforts to increase innovation and productivity usually take a long time to reap its desired outcomes. This means that governments should expect such expenditure to be long-term and hence, negative short-run consequences of rising debts may actually outweigh the long-run benefits from increased competitiveness if the intended outcomes of investment is not successful.

Conclusion

In view of rising government debts, discuss whether governments' subsidies to increase its global competitiveness is justified

Ultimately, whether government's spending on subsidies to raise global competitiveness is justified or not depends on the intent of the government in its decision-making through considerations on the constraints faced by the government, cost and benefits onto the various economic agents in the economy, intended vs unintended consequences, and lastly, any internal & external changes which also have impacts on the decision.

Government spending on subsidising for productivity changes can be justified provided that the government has sufficient information to decide how they can still carry out other supplementary measures to increase taxes and reducing government spending to finance the current government debts and yet at the same time, not forgoing growth entirely. For example,

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- To reduce the disincentive effects of increased taxation on labour productivity, the government may want to increase the tax revenue from other tax sources i.e. indirect taxes instead which are more broad-based.
- Government spending should also be cut and directed on spending that will aid economic recovery. I.e. boosting productivity gains such as grants for re-training and innovation purposes which will lead to both increases in AD and AS, hence ensuring a more sustained economic recovery.

Other acceptable approaches:

Students may discuss the use of government subsidies in the case of developing infant industries, where in the long run, may contribute to building of new comparative advantages and hence, ability to export and hence positively impact the various macroeconomic goals. In the anti-thesis, drawbacks of protectionism should be recognised i.e. risks of retaliation and downward world multiplier effect and addressed together with the consequences of rising government debts.

Level	Knowledge, Application, Understanding and Analysis	Marks
L 3	Clear analytical explanation of advantages and disadvantages of government's raising global competitiveness in view of rising government debts	8 – 10
L 2	Description of use of government subsidies to raise global competitiveness OR one that does not consider the impacts of rising government debts	5 – 7
L 1	Knowledge of increasing global competitiveness or impacts of government debts but largely unexplained – i.e. a list like presentation.	1 – 4
Allow up to 5 additional marks for Evaluation		
E3	For an answer that arrives at an analytically well-reasoned judgment on whether efforts to raise global competitiveness is justified in view of rising government debts	4 - 5
E2	For an answer that makes some attempt at evaluating or a conclusion that answers the question but does not explain the judgement or base it on analysis	2 - 3
E1	For an answer that gives an unsupported evaluative statement.	1

6	Globalisation has made our world more interconnected than ever before and presented a wealth of opportunities. Yet, globalisation has also presented an uneven distribution of its benefits and costs.	
(a)	Explain the factors that have fuelled globalisation.	[10]
(b)	Globalisation has presented an uneven distribution of its benefits and costs. Discuss the reasons for this.	[15]

Suggested answers to part (a)

(a) Explain the factors that have fuelled globalisation. [10]

Introduction: Define globalisation and briefly describe the main factors that have fuelled globalisation

Globalisation is the increased integration and interdependence of economies. It can be categorised as **economic globalisation**; the greater integration of goods and services (via trade), labour and capital markets and **geographical globalisation**; the reduction in travel times between locations and the rapid (electronic) exchange of information. Knowledge and production previously confined to certain geographical areas may now cross borders and be made available because of the communication and transport technological innovations.

Body 1: Explain how trade liberalisation led to increase trade flows based on the theory of CA.

One main factor that facilitates globalisation is **trade liberalisation and the promotion of free trade based on the Theory of Comparative Advantage**. The theory of comparative advantage posits that economies can mutually benefit from specialisation and exchange of goods they have a lower opportunity cost in producing. For example, between Thailand and Singapore, Thailand's vast amount of arable land and large number of rice farmers meant that it has resources that are more suited for the cultivation of rice over Singapore. In the cultivation of rice, Thailand has a **lower opportunity cost** as compared to Singapore as Singapore does not have the similar factor endowments that are suitable for rice cultivation. On the other hand, Singapore would have a lower opportunity cost in the production and manufacturing of electronic goods because of its skillful labour force and level of technological adoption. If Thailand devotes its resources to the cultivation of rice and Singapore devotes its resource to the production of electronic goods, both countries would be more efficient in their production. **With subsequent exchange**, that is, Thailand to export rice and import electronic goods, while Singapore would import rice and export electronic goods, **both countries could exploit their differences in relative opportunity cost and consume a combination of goods outside what they possibly could if they produce both goods on their own (consume beyond their PPC)**.

The greater amount as well as variety of goods available for consumption among other potential gains from free trade have led to increasing liberalisation of trade and capital

markets, facilitated by governments moving towards policies such as Free Trade Agreements (FTAs) to reduce trade barriers (removing import tariff and quotas). These led to greater economic integration amongst economies and the trend of globalisation.

Body 2: Explain how development in communication technology has led to increased intergration

The revolutionary break-through in information and communication technology (ICT) and development in transport technology have also provided the drive for global integration by facilitating trade.

Development in communication technology has facilitated the transmission of information over geographical borders quickly and efficiently. This allows transnational firms to coordinate their operations worldwide via different avenues such as video conferences & emails. The implication is that firms such as Toyota and Apple Inc. are **able to set up plants worldwide by tapping on the comparative advantages in production of different types of goods in different countries** to improve their productivity and efficiency. These firms are also able to outsource part of the production process yet maintain control over them with the ease of communication. This “**slicing up of the value chain**” results in increased flow of intermediate goods as well as capital amongst the economies leading to higher degree of globalisation.

Body 3: Explain how development in transport technology has led to increase intergration

Last but not least, **developments in transport technology** have caused transportation cost and time for goods and people to shrink tremendously increasing mobility of goods and factors of production. These have enhance economies trade network and aid in the increase in trade volume. For example, sea transport has become more efficient with new technology such as (automated cargo handling and faster vessels). Better navigation system also enhanced the safety and efficiency of sea transport. The reduction in time for sea transport and cargo handling has helped to transport goods and documents for firms faster.

Conclusion: Summarise Salient Points

Not only has these technologies enhance the benefits of trade, they are essential enablers of trade, without which, there would not be as much integration amongst world economies.

Syllabus 9757

Level of Response Marking Scheme (LORMS)		
L3	<p>For a well-developed answer that clearly explains factors that fuelled globalisation based on economic reasoning (e.g. Theory of Comparative Advantage)</p> <p>Answers are well-supported with appropriate examples.</p>	8 – 10
L2	<p>For an undeveloped answer that attempts to explain factors which fuelled globalisation.</p> <p>Answers are descriptive and lacks economic reasoning (e.g. Theory of Comparative Advantage).</p> <p>Answers are supported with some example.</p>	5 – 7
L1	For an answer that is irrelevant and contains conceptual error.	1 - 4

(b) Globalisation has presented an uneven distribution of its benefits and costs. Discuss the reasons for this. [15]

Introduction

Globalisation brings about several benefits and costs to the economy. Increasing trade, capital and labour flows will benefit an economy in terms of higher economic growth, higher employment opportunities and increasing SOL while at the same time they may also lead to rising income inequity, structural unemployment and environment degradation.

At the same time, there is an uneven distribution of benefits and costs between countries (LDCs vs DCs, small country vs large country) and within a country and there is a need to consider the reasons behind the differences in distribution. The reasons could stem from:

- 1) Factor immobility: Geographical, occupational.
- 2) Unfair trade practices
- 3) Nature of economy
- 4) Lack of laws/enforcements/Less established banking sector/corporate governance

Reason 1: Factor immobility

One of the reasons that would limit the benefits within the domestic markets would be **factor immobility**. Factors of production (land, labour, capital) are not perfectly mobile within a country. As a country specialises in the production of a good, it will eventually be forced to utilise resources which are less suited to the production of the good. For example, as Singapore specialises in the production of pharmaceutical products, it will be forced to use labour that lacks the relevant skills and knowledge needed.

As such, in reality, a country's PPC would be concave to the origin. This reflects the law of increasing opportunity costs, whereby the opportunity costs of producing each successive unit of pharmaceutical products rises. The increase in opportunity cost would limit the extent of specialisation and thus reduces the full benefits of specialisation and exchange.

a) Occupational immobility

In addition, Globalisation has merely hastened the speed at which countries (like SG) move up the value-added chain, shedding jobs in sunset industries (low value added manufacturing industries) but creating jobs in sunrise industries (high value added, technological based industries.) Hence, in this aspect, since employees in the sunset industries may find themselves without a job and because their skill sets are not suitable for the sunrise industries (occupational mobility), these lower skilled workers may not benefit from globalisation. Thus, in this aspect, there could be structural unemployment and widening income gaps when the lower skilled workers are displaced and this problem is also exacerbated by the influx of foreign labour.

Also, ↑ openness and trade → allow for offshoring to occur → differences in the demand for high-skilled workers (higher) and low-skilled workers (lower) → differences in the wages of these 2 groups of workers → income gap ↑→ worsens **inequity** across countries

b) Geographical immobility

The benefits of globalisation are not evenly distributed as it depends on the accessibility of job opportunities and trade flows. For instance, some rural areas of China which do not tap on global markets due to poor transport and communication (geographical immobility) networks may not be able to reap the benefits of globalisation and this could worsen the rural-urban income gaps.

Linking back to the question

Hence, within a country, different groups of workers and firms may benefit differently from globalisation and this depends heavily on the effectiveness of government policies in ensuring that the pool of labour is able to flexibly adapt to changes in comparative advantages and has fair access to employment opportunities across the country with increasing globalisation.

Reason 2: Unfair trade practices

With globalisation and free trade, countries have access to international markets and hence, some countries to be exposed to unfair trade practices like Dumping. The problem is more pertinent if there are no proper regulations in place to protect the domestic industries.

Dumping refers to the sale of a good overseas (exports) below its cost of production or at prices which are lower in foreign countries than in domestic markets. FTA would introduce foreign competition (imports) to domestic market. These imports could be heavily subsidised by the foreign countries or government such that the prices could be lower than those of the domestic products. This is perceived to be dumping into the domestic market.

A reason for dumping could be to force out domestic firms so as to consolidate monopoly power. Once monopoly power is established, the foreign firms could charge higher prices to reap supernormal profits. Hence, while consumers could enjoy lower prices in the short run, the consumer welfare could be eroded in the long run.

Furthermore, foreign competition could jeopardise the development of home industries before the industries could realise its potential. These infant industries could have the potential to be more efficient compared to the foreign firms. The hampering of the development of these industries could precipitate long run welfare loss. Production of commodities, especially strategic goods, makes a country overly dependent on other countries.

Linking back to the question

Hence industries which experienced dumping by other countries may suffer more from free trade and globalisation and thus globalisation brings about an uneven distribution of benefits and costs to different industries.

Evaluation

The extent of costs faced by these industries is also dependent on the type of government policies that are put in place

For instance, some countries like China have put in place anti-dumping measures on synthetic rubber from the US and EU as dumping has caused substantial damage to its domestic industry.

While there are gains to be realised from specialisation, countries should still embark on diversification programme to promote self-sufficiency and independence in the provision of strategic goods to some extent.

Reason 3: Nature of economy

With globalisation and the increasing openness to trade, open economies like Singapore could be more vulnerable to external shocks. ↑ openness and trade.

Singapore was one of the first to be hit during the global financial crisis in 2009 where we experience a ↓ X → ↓ AD → ↓ RNY by a multiplied amount → worsen actual growth and increasing unemployment. In addition, ↓ X-M → worsen current account and hence BOP position.

The extent of the costs (worsening actual growth, increasing unemployment and worsening BOP) could differ from country to country as it depends on the significance of the net exports to the country's GDP. Countries like China which have large domestic markets and have consumption-led growth may not be as negatively affected by an external crisis as compared to countries like Singapore. Hence, the distribution of costs and benefits could be uneven.

The extent of imported inflation also depends on how reliant a country is on imported raw materials. Greater reliance breeds greater susceptibility and hence such countries are more prone to suffer from volatile prices externally.

Reason 4: Lack of laws/enforcement

LDCs and DCs may benefit differently from globalisation as there could be differences in the way policies are enacted and enforced.

a) Capital outflows due to lack of government regulations/laws

With globalisation there could be ↑ capital mobility. If FDI are footloose (unrestricted in locations and could move out easily, this is dependent on the government regulations in place) and withdraw capital in times of negative outlook → worsen long term capital flow and capital and financial account → worsen BOP. Hence, if there are lack of laws to govern the flow of short term capital (hot money) and long term capital (FDI), it could be destabilising to an economy. Since capital investment is likely to be more scarce in developing countries than in developed ones, returns to investment

in many developing countries are likely to be higher at home than abroad. Hence, developing countries could be more severely affected by outflows of capital.

b) Pollution problems

In addition, with increasing FDI and offshoring practices by foreign firms, developing countries could suffer from rampant pollution (since factories and heavy industries are often relocated to developing countries as cost of production is much lower than the home country). Hence, without proper laws and regulations, the pollution problem could be more severe.

Evaluation

This persistence and severity of the problem is highly dependent on the effectiveness and appropriate enforcement of government policies.

Conclusion

Globalisation has presented an uneven distribution of its benefits and costs and the government plays a significant role in ensuring that the costs are minimised and benefits are maximized to achieve sustainable and inclusive growth.

Ultimately, the most significant reason behind the uneven distribution of benefits and costs could be **the effectiveness and enforcement of various policies** implemented to address the costs of globalisation. For instance, in dealing with competition for jobs amongst locals and foreigners, Singapore has implemented the **Dependency**

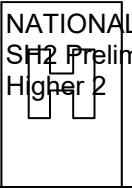
Ratio Ceiling (DRC) to put a cap on the number of foreign workers that could be hired (ratio depends on the type of industry). This effectiveness of policy is also dependent on appropriate enforcement by the government. Also, the Singapore government has adopted Skills Future as a policy to improve the skills of workers to keep them relevant in the changing economy. Thus with effective policies, countries would be able to enjoy a greater extent of benefits from globalisation.

Also, the reasons can be multi-causal:

- 1) **Depends on the nature of economy.** Ultimately, different countries would enjoy different distribution of benefits and costs of globalisation. For a small economy like Singapore with limited natural resources and small domestic size, the benefits of globalisation will outweigh the costs as Singapore has little choice but to look outward for imported raw materials and for further growth. The continuous economic growth led by trade enjoyed by Singapore in the last 50 years is a testament to the overall net benefits of globalisation.
- 2) **Outlook of the world economy:** If global economy outlook is poor, it may increase anti-trade sentiments amongst countries as governments turn towards protectionist measures to boost domestic economy given that the external driver of growth through exports is less useful. Countries that can diversify their pool of trading partners and maintain greater trade flows will be able to fully benefit from international trade. But more often than not, even with the most effective government policies and proper enforcement, there are external conditions that are not within a government's control and it depends significantly on the agility of the economy and workforce to adapt

Mark Scheme:

Level	Knowledge, Application/Understanding and Analysis	Mark
L3	For a well-developed answer that uses appropriate analysis and framework to discuss the reasons for an uneven distribution of benefits and costs of globalisation, with good usages of examples.	8 – 10
L2	For an under-developed answer that comprises the reasons for an uneven distribution of benefits and costs of globalisation, with limited usages of examples.	5 – 7
L1	For an under-developed answer that shows superficial discussion of the reasons for an uneven distribution of benefits and costs of globalisation. Answers lack clarity and are largely erroneous. Mere listing of benefits and costs which does not address the question.	1 – 4
E3	For an answer that arrives at an analytically well-reasoned judgement about whether the benefits of globalisation outweighs the costs. Answers are able to address the idea of “uneven distribution” and have considered several parameters for which distribution is often uneven within a country and/or across countries. Ranking of reasons is necessary to attain this level.	4 – 5
E2	For an answer that makes some attempt at a judgement about the reasons for the uneven distribution of benefits and costs.	2 – 3
E1	For an answer that gives an unsupported judgement about the reasons for the uneven distribution of benefits and costs.	1



ECONOMICS

9757/01

Paper 1

27 August 2018

2 hour 15 minutes

Additional Materials: Answer Paper, Cover Pages

READ THESE INSTRUCTIONS FIRST

Write your name and subject class on all the work you hand in.

Write in dark blue or black pen.

You may use an HB pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, glue or correction fluid.

DO NOT WRITE IN ANY OF THE MARGINS.

Answer **all** questions.

Start parts (d) and (e) for both case studies on a new piece of paper.

Fill in the necessary information on the cover pages.

At the end of the examination, fasten all your work securely with the cover pages given.

The number of marks is given in brackets [] at the end of each question or part question.

This document consists of **7** printed pages and **1** blank page.

Answer **all** questions.

Question 1

Transformation of Vietnam's Agriculture Sector

Extract 1: Thailand and Vietnam urge farmers to plant less rice

Falling global rice prices have caused an outcry in Thailand and Vietnam - the world's largest exporters behind India - prompting the government to rush out soft loans that help farmers withhold sales. But these falling prices are also making regional exporters consider planting less of the grain.

Thailand last month unveiled plans to plant corn on 320,000ha of rice fields over the next seven months. To nudge farmers to switch, the government is dangling interest-free loans and has guaranteed prices for the corn.

Vietnam, the world's third largest rice exporter, approved a strategy earlier in May to restructure its rice industry by integrating production and developing a national brand that can command higher prices. It also wants to convert 700,000ha to 800,000ha of its roughly 4 million hectares of rice fields to mixed or other uses. The idea is to earn more by dedicating less land to rice, so as to help paddy farmers weather the vagaries of the global commodity market.

Dam-building in the upper reaches of the Mekong River, the lifeblood of the region, is also disturbing the sensitive ecology that nourishes rice fields downstream. Earlier this year, a drought caused the loss of 1.29 million tonnes of Vietnam's crop. Vietnam's loss of arable land is also worsened due to Vietnamese government's motivation behind supporting agricultural land acquisition to promote the country's industrialisation and modernisation. The country is said to be working on the rules on how to attract more investors to their lands. Getting a license to operate as a manufacturer in Vietnam has become much easier as compared to Vietnam's Asian neighbours. These are efforts made by the government to welcome more foreign investments in the country, hence increasing the production of manufactured products as Vietnam witnesses a rising manufacturing share of its gross domestic product.

Rice specialist Pham Thi Kim Dung from Vietnam's Institute of Policy and Strategy for Agriculture and Rural Development, the agriculture ministry's think-tank, said: "Rice brings much lower profitability compared with other agricultural commodities when Vietnamese farmers receive little support from the government." In the long run, say experts, the solutions lie in higher-value grains and integrated and environmentally sensitive farming.

Source: www.straitstimes.com, 6 November 2016

Extract 2: Shrimp farming in Vietnam - the search for a healthy environment

Due to its favourable natural conditions, farmers in coastal communes of the southern Ben Tre Province started to switch from rice cultivation to shrimp farming 15 years ago. The rapid success and high income that the industry ushered in pushed many local people to invest in this sector.

After a few years, Thanh Phuoc transformed from a poor commune into a wealthy locality. Ngo Van Thu, a farmer in Thanh Phuoc commune, said the land had not yet been exploited at that time, so the water resources were abundant and the clean environment supported the production. Due to attractive profits, farmers in other areas of unfavourable natural conditions also did whatever it took to raise shrimp, including in Ben Tre, but the Ba Lai project area is filled with freshwater. Local people spontaneously drilled wells to bring in salt water and made ponds to raise shrimp.

The rapid growth of shrimp farming has led to disease outbreaks, shrimp kills and huge losses for farmers in many places. Similarly, the delta province of Tra Vinh, where the irrigation system is inefficient, experienced issues with diseased shrimp. Huynh Phuoc Hai, a farmer in Kien Giang Province, said, "It's clear that the farming environment is being seriously polluted. Along one canal, many households scrambled for water for use, and when shrimp got diseases, they discharged the contaminated waste, spreading the diseases."

Vo Hong Ngoan, a long-term shrimp farmer in Bac Lieu Province, said the environment was so polluted many farm owners were using antibiotics to prevent diseases. Besides its prophylactic purpose, antibiotics overuse will increase the cost of production and the seed source is no longer qualified. According to statistics of relevant agencies, in the last two years, 32,000 tonnes of aquaculture (mainly shrimp) of Vietnamese companies were returned after they were imported because of antibiotic contamination.

Source: *vietnamnews*, 17 January 2016

Extract 3: Vietnam - Sustainable Farming Increases Productivity and Improves the Environment

Since the introduction of economic reforms under "Doi Moi" in 1986, Vietnam's agriculture has made impressive progress. Nevertheless, problems of quality and food safety remain, resulting in low export prices and concerns among domestic consumers. At the time of the launch of the Agriculture Competitiveness Project (ACP), productivity growth was decelerating and there was a decline in real expenditures in agricultural research and extension.

The ACP aimed to strengthen the competitiveness of smallholder farmers in the select project provinces through strengthening agricultural technology, fostering the establishment of farmers' organisations and their linkages to agri-businesses, and provision of critical public infrastructure. It provided an opportunity for smaller companies and farmers in less developed areas to accelerate growth.

Through the project, competitiveness of smallholder farmers has strengthened. A total of 154 technology extension packages were implemented. On average, where the technologies were applied, the farmers realised a 17 percent increase in yield and a 22 percent increase in the value of sales. The country has thus emerged as one of the world's leading exporters of agro-food commodities and is among the top five for aquatic products, rice, coffee, tea, cashews, black pepper, rubber, and cassava.

In addition, the project successfully established 98 demand-driven productive partnerships between farmer organizations and agribusiness companies. More than 95,000 farmers benefited from upgraded infrastructure, of which the large proportion was rural/market access roads. These investments resulted in reductions in post-harvest losses, transportation time and transportation costs.

Source: www.worldbank.org, 15 April 2016

Table 1: Vietnam's terms of trade (Index Points)

	2011	2012	2013	2014	2015	2016
Terms of Trade	99.5	99.8	99.9	102.2	102.2	103.4
Import Prices	120.2	99.7	97.6	99.0	94.2	105.4
Export Prices	119.6	99.5	97.6	101.1	96.2	109.0

Source: *tradingeconomics.com*

Questions

- (a) With reference to Table 1,
 - (i) State the change in Vietnam's terms of trade from 2011 to 2016. [1]
 - (ii) Account for the change in Vietnam's terms of trade from 2011 to 2016. [2]
- (b) With reference to Extract 1, explain why Vietnam is likely to see a change in its comparative advantage away from the production of rice. [4]
- (c) With the aid of a diagram, explain how the rapid growth of shrimp farming might affect societal welfare. [5]
- (d) Discuss the factors that are likely to influence the decision of the farmers to switch from rice growing activity to shrimp farming business. [8]
- (e) Assess the possible impact of the launch of the Agriculture Competitiveness Project on Vietnam's economy. [10]

[Total: 30]

Question 2

Looming Threats to Globalisation

Extract 4: The potential impacts of Brexit on the global economy

The markets were caught off guard by the UK's vote to leave the European Union (EU) on 23 June. The immediate reaction in the financial markets was swift and violent, and will feed into the far-flung macroeconomic consequences of Brexit (Britain's exit from the EU). For example, a sharp and sustained rise in the value of the US dollar versus the euro will put added pressure on the weak US manufacturing sector just as it seemed to find a new footing. This puts additional downward pressure on historically weak US growth momentum.

While it is uncertain how the Brexit vote will reverberate in the months and years to come, a few immediate consequences seem highly likely:

- The flight to safety away from the epicentre of this British-EU divorce will push capital away from the region and toward key safe-haven markets including the US and Japan.
- A higher US dollar and Japanese yen are negative to both economies' export sectors. In the case of Japan, this is particularly unhelpful to its efforts to reinflate and reinvigorate the economy after decades of deflation.
- The higher US dollar also triggers additional pressure on China to float the yuan lower, as it is caught in the divergence between its two largest export markets – the EU and the US.
- For the US, the negative impact on exports is relatively small compared with trends in domestic demand, but the deflationary pressure on tradable goods will widen the divergence between reasonably strong inflation in the services sector vs. reasonably strong deflation in the goods sector.
- The European Central Bank will be compelled to raise its level of intervention yet again, as risk premiums across the region rise. Members of the Eurozone may be hard hit by the loss of investor confidence coupled with debt problems.

Source: *Forbes*, 29 June 2016

Extract 5: Why sterling suffered a “flash crash”

If a country's exchange rate represents international investors' confidence in its government's policies, the markets have given Britain the thumbs-down. On October 7th the pound sterling fell from \$1.26 to \$1.18 against the dollar within a few minutes. The sterling Effective Exchange Rate Index (EERI) – a measure of the value of the pound calculated according to UK's trade with different countries and in various currencies – is close to a record low.

Following the referendum in which Britain voted to leave the EU, the government appears to be pursuing a “hard Brexit”, in which economic aims (free trade and membership of the single market) are subordinated to the political priorities of legal sovereignty and reduced immigration. Analysts at UniCredit, an Italian bank, said that “investors are now perplexed by the country's vision on immigration, openness and business friendliness. This will be detrimental to the outlook for sterling given the global status that the UK has enjoyed for many years.”

Source: *The Economist*, 20 Oct 2016

Table 2: Quarterly Average Sterling Effective Exchange Rate Index (2005 = 100)

2014				2015				2016			
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
85.6	86.9	88.0	87.3	89.4	91.2	92.9	92.2	87.0	85.5	78.8	76.6

Source: Office for National Statistics, United Kingdom

Extract 6: Trade, at what price?

Since the 1980s, America's economy has gradually opened up to cheap imports. This accelerated in 1993 with the signing of the North American Free-Trade Agreement (NAFTA) with Mexico and Canada. The deal eliminated most tariffs on trade between the three countries over a decade. Imports (excluding fuel) from Mexico grew by about five times between 1993 and 2013, according to the Peterson Institute.

In 2001 China joined the World Trade Organisation (WTO). Although this did not change any tariffs, a tsunami of cheap Chinese imports followed. "Made in China" labels became ubiquitous on clothes, toys, furniture and, eventually, electronics as Chinese imports surged from 1% of Gross Domestic Product (GDP) in 2000 to 2.7% by 2015.

In any case, cheap imports were a windfall for American consumers. Excluding food and energy, prices of goods have fallen almost every year since NAFTA. More trade brought more choice, too. Robert Lawrence and Lawrence Edwards, two economists, estimate that trade with China alone put \$250 a year into the pocket of every American by 2008 due to cheaper goods. The gains from cheap stuff flowed disproportionately to the less well-off, because the poor spend more of their incomes on goods than the rich.

At the same time, trade created new markets for American firms. In 1993 America sold nearly \$10 billion-worth of cars and parts to Mexico, at today's prices. Many American firms have become tightly integrated across the southern border, with low-skilled work done in Mexico and more complex tasks done at home. Exports to China grew by almost 200% between 2005 and 2014, with agriculture and the aerospace and car industries leading the charge. Some workers have benefited from rising exports, because firms that export pay more. Outsourcing low-wage assembly has also increased the productivity of America's high-skilled workers. For example, Apple's ability to assemble its iPhones cheaply in China has made the work of its American designers much more lucrative.

Trade, however, has an acute image problem. Its benefits are hard to perceive directly, spread across various stakeholders: consumers, exporters, and workers. In contrast, its costs are highly concentrated. Cheap imports have been lethal for many American manufacturers, particularly in the mid-western rustbelt and in the South.

The impact of trade on jobs was a growing concern. The sharp decline in American manufacturing employment began in 2000, just as Chinese imports took off. A recent study by Daron Acemoglu, David Autor and others estimated that about 1 million of 5.5 million manufacturing jobs were lost between 1999 and 2011 to Chinese competition.

Many workers displaced by Chinese imports did not simply find another job. Mr Autor and his colleagues have shown that, at the local level, displaced workers are unlikely to move to seek new work. One reason for this immobility could be that the economy is now an unwelcoming place for jobseekers without a university degree.

Source: *The Economist*, 2 Apr 2016

Extract 7: How dairy farmers in Belgium held up a big EU trade deal

Christian Wiertz is a leader of a group of dairy farmers in the Wallonia region in Belgium that single-handedly threatened to derail a landmark accord to deepen commerce between Canada and the European Union. On 14 October, Wallonia's regional Parliament used its veto power to block Belgium from approving the Comprehensive Economic and Trade Agreement (CETA) with Canada, which requires consensus among the 28 nations of the EU.

"Global competition has squeezed small businesses dry," said Mr. Wiertz, a fifth-generation farmer. Selling milk at the world price, according to Mr Wertz, was not commercially viable for them due to their higher costs and taxes compared to the big multinationals.

Source: *The New York Times*, 28 Oct 2016

Table 3: Selected trade indicators (as percentage of GDP), 2016

Percentage of GDP	Belgium	United Kingdom	United States
Exports of goods and services (%)	82.9	28.3	11.9
Imports of goods and services (%)	81.5	30.3	14.7
Current account balance (%)	0.1	- 5.8	- 2.4

Source: World Bank

Questions

- (a) (i) State what happened to the British pound sterling Effective Exchange Rate Index between Q1 2014 and Q4 2016.
[2]
- (ii) Using a demand and supply diagram, explain the cause of the trend observed in the Sterling Effective Exchange Rate Index in 2016.
[4]
- (b) With reference to Table 3, calculate and compare the net income flow (including transfers) in the UK current account balance with that of the US.
[2]
- (c) Explain how a free trade agreement between the EU and Canada might affect a small dairy farmer in Belgium.
[4]
- (d) Given that membership in the EU means free movement of goods, labour and capital among member countries, assess the possible impact of Brexit on the UK economy.
[8]
- (e) Discuss the factors that determine the extent to which globalisation is beneficial to different countries.
[10]

[Total: 30]

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NATIONAL JUNIOR COLLEGE

\$H2 Preliminary Examination for General Certificate of Education Advanced Level

Higher 2

ECONOMICS

Paper 2: Essays

9757/02

20 August 2018

2 hours 15 minutes

Additional Materials: Answer Paper and 3 Essay Cover Pages

READ THESE INSTRUCTIONS FIRST

Write your student registration number and name on all the work you hand in.

Write in dark blue or black pen.

You may use an HB pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, glue or correction fluid.

DO NOT WRITE IN ANY OF THE MARGINS.

Answer **three** questions in total, of which **one** must be from Section A, **one** from Section B and **one** from **either** Section A or Section B.

Start each question on a **new** piece of paper.

At the end of the examination, fasten all your work securely with the cover pages given [**one cover page for each question**].

Fill in the necessary information on the cover page.

The number of marks is given in brackets [] at the end of each question or part question.

This document consists of **3** printed pages and **1** blank page.

Answer **three** questions in total.

Section A

One or two of your three chosen questions must be from this section.

- 1 Rising cost of laying water pipes and continued income growth have contributed to the significant increase in price of water in Singapore. This is expected to affect the operations of the food and beverage industry.
 - (a) Explain why rising cost of laying water pipes and continued income growth may have contributed to the large increase in price of water. [10]
 - (b) Discuss how the above factors may impact the markets for restaurant and hawker food in Singapore. [15]
- 2 The petrol retailing industry in Singapore has long been dominated by a few large players such as Shell, Caltex, ExxonMobil and SPC.
 - (a) Explain how barriers to entry can affect a firm's price and output decisions. [10]
 - (b) Discuss whether a firm should mainly compete based on pricing strategies in an industry like petrol retailing. [15]
- 3 MediShield Life is a state insurance scheme that provides lifelong protection for all Singapore Citizens and Permanent Residents against large hospital bills. It has co-payment features such as claim limits, deductible, and co-insurance to ensure that those insured share the burden of medical bills with the government.
Discuss the appropriateness of the Singapore government's approach in addressing the market failure due to imperfect information and asymmetric information in the market for healthcare and its related markets. [25]

Section B

One or two of your three chosen questions must be from this section.

- 4** Singapore's monetary policy has been centred on the management of the exchange rate instead of the management of interest rate.

Discuss whether the factors limiting the effectiveness of interest rate policy are key in determining the choice of exchange rate centred monetary policy instead of interest rate policy in achieving Singapore's macroeconomic goals. [25]

- 5** Brazil's Gross Domestic Product (GDP) contracted by 3.6% in 2016 and this has led to calls from policy makers to use discretionary fiscal policy to stimulate the economy.

(a) Explain why a government cannot rely solely on automatic stabilisers and instead uses discretionary fiscal policy to address the concerns of an economic recession. [10]

(b) Discuss whether demand management policies are more important than supply side policies in attaining inclusive economic growth for an economy experiencing recession. [15]

- 6** Evaluate the policies the Singapore government should adopt to improve global competitiveness in light of the potential conflicts with the achievement of macroeconomic goals. [25]

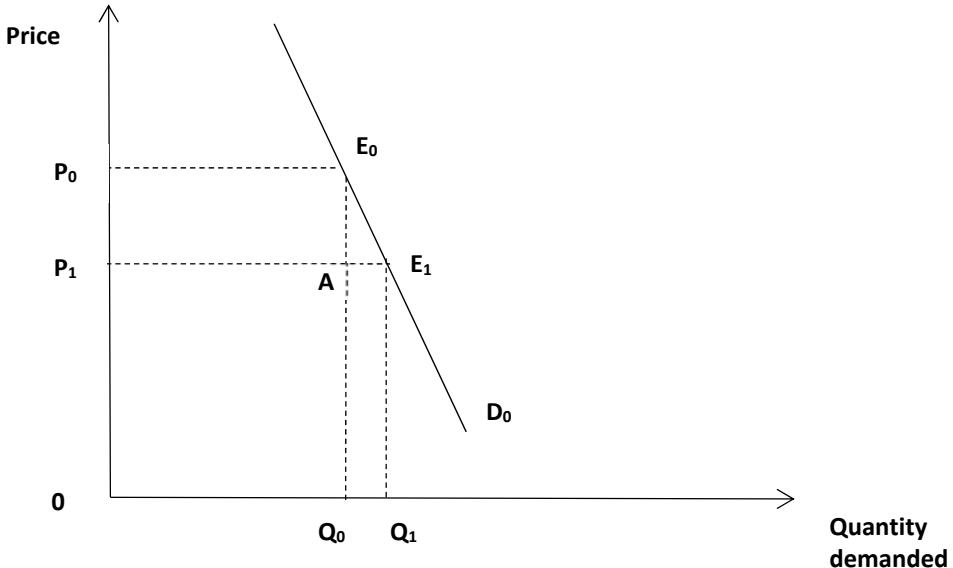
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2018 SH2 H2 Economics Prelims

Paper 1 – Case Study Question 1

Questions & Suggested Answers		Marks
(a)	<p>With reference to Table 1,</p> <p>(i) State the change in Vietnam's terms of trade from 2011 to 2016.</p>	[1]
	Vietnam's terms of trade has increased (1m) from 2011 to 2016.	
	(ii) Account for the change in Vietnam's terms of trade from 2011 to 2016.	[2]
	The increase in Vietnam's terms of trade is due to a fall in Vietnam's import prices (1m) at a greater rate than the fall in Vietnam's export prices (1m).	
(b)	With reference to Extract 1, explain why Vietnam is likely to see a change in its comparative advantage away from the production of rice.	[4]
	There are changes in Vietnam's natural resource and climate due to public infrastructure such as dam-building in the upper reaches of the Mekong River (1m). In addition, Vietnamese Government's effort to increase foreign investment bring about an increase in new capital (1m). These factors bring about changes in Vietnam's factor endowment and cause Vietnam to incur a higher opportunity cost in the production of rice and a lower opportunity cost in the production of manufactured goods (1m). Hence Vietnam changes its comparative advantage from the production of agricultural products to manufactured products (1m).	
(c)	With the aid of a diagram, explain how the rapid growth of shrimp farming might affect societal welfare.	[5]
	<p>In a free market economy, individuals take into account its private cost and private benefit of production, producing at Q_p units where $MPB = MPC$ with reference to Figure 1. Marginal External costs (MEC) to society is not internalised by the price mechanism, examples of MEC are water pollution caused by contaminated waste discharged from shrimps with diseases (1m), affecting households using the water along the same canal. There is a divergence between MPC and MSC, actual costs to society is where $MSC = MPC + MEC$ (1m). Socially optimal level of output is at Q_s units where $MSB = MSC$. Here there is over-production of $Q_p Q_s$ units (1m) leading to allocative inefficiency and deadweight loss indicated by the area $AEsEp$ (1m).</p> <p>Diagram (1m)</p>	

Figure 1: Overproduction of shrimps

(d)	Discuss the factors that are likely to influence the decision of the farmers to switch from rice growing activity to shrimp farming business	[8]
	<p>Introduction:</p> <ul style="list-style-type: none"> From the perspective of farmers, their objective in the long run will be to maximise profit. Relevant information to support farmers' decision making will be both revenue and cost factors. In the decision-making process, farmers might be constrained by other factors. <p>Body:</p> <p>Revenue factors that impact farmers' decision making to switch</p> <ul style="list-style-type: none"> Falling global rice prices (Extract 1) would lead to a fall in price of rice in the domestic rice market. With reference to Figure 2, quantity demanded for rice would increase from Q_0 to Q_1. The demand for rice is relatively price inelastic due to it being a staple food and thus a high degree of necessity. Hence TR falls. Hence, farmers may switch from rice growing activity to other farming businesses.  <p>Figure 2: Domestic demand for rice</p> <ul style="list-style-type: none"> In Extract 2, there was rapid success and high income that the industry ushered in which indicated there was the presence of high profits to be made. This could be attributed to the growing demand for shrimps in Vietnam. With the increase in demand, TR increases. The higher profits to be earned as indicated by attractive profits in Extract 2 may have led to the switch to shrimp farming. <p>Revenue factors that impact farmers' decision making NOT to switch</p> <ul style="list-style-type: none"> With reference to Extract 2, the attractive profits have led to farmers in other areas of unfavourable natural conditions to switch to shrimp farming. However, the rapid growth of shrimp farming has led to disease outbreaks, shrimp kills and huge losses for farmers. This could lead to a large fall in revenue and profits for farmers and they may not switch to shrimp farming. <p>Cost factors that affect farmers' decision making to switch</p> <ul style="list-style-type: none"> With reference to Extract 1, the dam building in the Mekong river led to the disturbance of the sensitive ecology that nourished rice fields downstream. Hence, farmers may have to use additional fertilizers and freshwater from other sources to continue growing their rice crops. This would persuade them to switch to shrimp farming instead. 	

- Vietnam's loss of arable land is worsened due to Vietnamese Government's motivation behind supporting agricultural land acquisition to promote the country's industrialization and modernization as mentioned in Extract 1.
- Hence farmers should switch from rice farming to shrimp farming.

Cost factors that affect farmers' decision making NOT to switch

- In Extract 1, the Vietnamese government rushed out soft loans that help farmers withhold their sales amidst the falling global prices for rice.. Hence, this lowers the relative total cost and increases profits thus rice farmers may not need to switch over.
- In addition, shrimp farming has led to water pollution caused by contaminated waste discharged from shrimps with diseases (Extract 2).
- The increase in cost incurred and lower profits in shrimp farming will thus affect farmers' decision not to switch from rice farming to shrimp farming.

Conclusion:

- In deciding whether to switch from rice growing activity to shrimp farming business, farmers need to take into account their objective. Given that profit maximisation is the only objective in the long run, farmers will need to consider the various revenue and cost factors in affecting their profits in rice growing activity compared to shrimp farming.

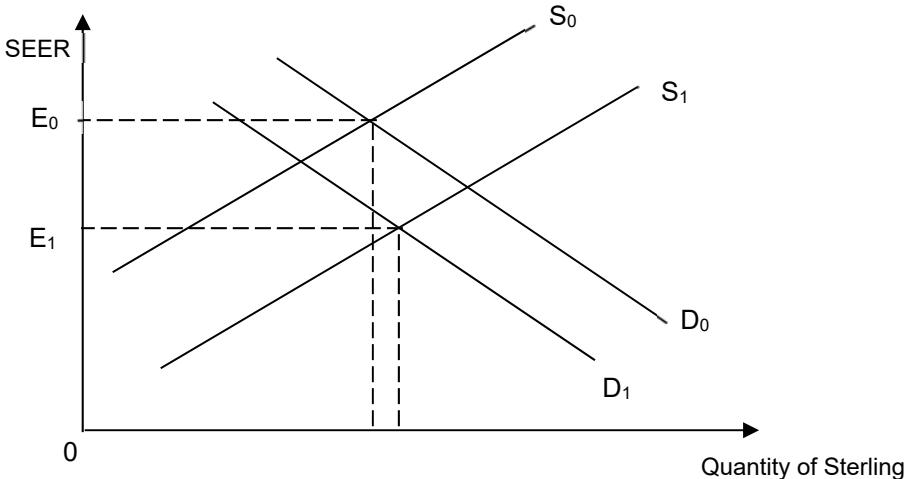
Mark Scheme

Level	Descriptors
Level 2 4-6	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> ➤ EXCELLENT breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of relevance and significance in answering the question. ➤ EXCELLENT depth in economic analysis that reflects the following in ALL explanations. <ul style="list-style-type: none"> ✓ Accurate use of economic concepts, clear elaboration, and precise use of economic terminologies, language and phrasing. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> ➤ Well-labelled and well-referred to diagram(s) drawn with precision (where appropriate). ➤ Relevant examples and accurate use of facts. ➤ Logical structure.
Level 1 1-3	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> ➤ GOOD breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of relevance and significance in answering the question. . ➤ GOOD depth in economic analysis that reflects the following in ALL explanations. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> ➤ Diagram(s) that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate). ➤ Example(s). ➤ Logical structure.

	<p>Evaluation</p> <table border="1"> <tr> <td style="text-align: center; vertical-align: top;">E2 2 marks</td><td colspan="2"> For an evaluation that contains <ul style="list-style-type: none"> ➤ A synthesis of earlier economic arguments to arrive at relevant judgements/decisions (i.e. answer the question). ➤ Well-explained criteria-based evaluative comments supported by accurate and clear analysis to provide fairness in views. ➤ A good summative conclusion. </td></tr> <tr> <td style="text-align: center; vertical-align: top;">E1 1 mark OR</td><td colspan="2"> For an evaluation that contains <ul style="list-style-type: none"> ➤ Relevant but unexplained evaluative judgement(s) / statement(s) i.e. evaluative judgement(s) / statement(s) not supported by analysis. ➤ A relevant conclusion. </td></tr> </table>		E2 2 marks	For an evaluation that contains <ul style="list-style-type: none"> ➤ A synthesis of earlier economic arguments to arrive at relevant judgements/decisions (i.e. answer the question). ➤ Well-explained criteria-based evaluative comments supported by accurate and clear analysis to provide fairness in views. ➤ A good summative conclusion. 		E1 1 mark OR	For an evaluation that contains <ul style="list-style-type: none"> ➤ Relevant but unexplained evaluative judgement(s) / statement(s) i.e. evaluative judgement(s) / statement(s) not supported by analysis. ➤ A relevant conclusion. 	
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(e)	Assess the possible impact of the launch of the Agriculture Competitiveness Project on Vietnam's economy.	[10]						
<p>Introduction:</p> <ul style="list-style-type: none"> • According to Extract 3, Agriculture Competitiveness Project (ACP) aimed to strengthen the competitiveness of smallholder farmers in the select project provinces through strengthening agricultural technology, fostering the establishment of farmers' organizations and their linkages to agri-businesses, and provision of critical public infrastructure. • Through the launch of ACP, Vietnam's economy is likely to experience changes in its economic growth, unemployment level and BOP position. <p>Body:</p> <p>Impact on actual growth and cyclical unemployment (AD analysis)</p> <ul style="list-style-type: none"> • ACP has enormous progress on Vietnam agriculture sector according to Extract 3. It reduces post-harvest losses, improves supply, and food quality, hence increases Vietnam's export competitiveness. Vietnam is likely to experience an increase in export revenue. • The increase in Vietnam's export competitiveness will lead to an increase in its net exports, assuming ceteris paribus and thus increases. The increase in AD will bring about a more than proportionate increase in real national output via the multiplier effect, resulting in actual growth in Vietnam. • Increase in real national output will bring about a fall in cyclical unemployment. <p>Impact on inflation rate (AD analysis)</p> <ul style="list-style-type: none"> • If Vietnam's economy is approaching full employment, the increase in GPL due to an increase in AD is likely to cause Vietnam to experience demand pull inflation. <p>Impact on BOP</p> <ul style="list-style-type: none"> • The increase in Vietnam's net exports will thus have a favourable impact on its BOT and improve its BOP position, ceteris paribus. <p>Impact on actual and potential growth (AS analysis)</p> <ul style="list-style-type: none"> • Through the project, a total of 154 technology extension packages were implemented (Extract 3). In addition, the project increases the provision of critical public infrastructure in the rural areas. • The increasing adoption in technology brings about an increase AS, increasing real national output and full employment output, thus increase both actual and potential growth in Vietnam's economy. <p>Impact on structural unemployment</p> <ul style="list-style-type: none"> • At the same time, structural unemployment might worsen in Vietnam as it transforms its agriculture sector. Improvement in technology changes the way farmers manage farmland and farm such as the use of satellite driven geo-positioning systems and sensors that detect nutrients and water in soil. <p>Evaluative Conclusion:</p>								

	<p>The extent of the impacts of ACP on Vietnam's economy depends on the nature of the country, mobility of labour and fiscal position of government (elaborate).</p> <p>Mark Scheme</p> <table border="1"> <thead> <tr> <th>Level</th><th>Descriptors</th></tr> </thead> <tbody> <tr> <td>L2 5-7 marks</td><td> <p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> ➤ EXCELLENT breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of relevance and significance in answering the question. ➤ EXCELLENT depth in economic analysis that reflects the following in ALL explanations. <ul style="list-style-type: none"> ✓ Accurate use of economic concepts, clear elaboration, and precise use of economic terminologies, language and phrasing. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> ➤ Well-labelled and well-referred to diagram(s) drawn with precision (where appropriate). ➤ Relevant examples and accurate use of facts. ➤ Logical structure. </td></tr> <tr> <td>L1 1-4 marks</td><td> <p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> ➤ GOOD breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of relevance and significance in answering the question. ➤ GOOD depth in economic analysis that reflects the following in ALL explanations. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> ➤ Diagram(s) that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate). ➤ Example(s). ➤ Logical structure. </td></tr> </tbody> </table> <p>Evaluation</p> <table border="1"> <tbody> <tr> <td>E2 2 marks</td><td> <p>For an evaluation that contains</p> <ul style="list-style-type: none"> ➤ A synthesis of earlier economic arguments to arrive at relevant judgements/decisions (i.e. answer the question). ➤ Well-explained criteria-based evaluative comments supported by accurate and clear analysis to provide fairness in views. ➤ A good summative conclusion. </td></tr> <tr> <td>E1 1 mark <u>OR</u></td><td> <p>For an evaluation that contains</p> <ul style="list-style-type: none"> ➤ Relevant but unexplained evaluative judgement(s) / statement(s) i.e. evaluative judgement(s) / statement(s) not supported by analysis. ➤ A relevant conclusion. </td></tr> </tbody> </table>	Level	Descriptors	L2 5-7 marks	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> ➤ EXCELLENT breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of relevance and significance in answering the question. ➤ EXCELLENT depth in economic analysis that reflects the following in ALL explanations. <ul style="list-style-type: none"> ✓ Accurate use of economic concepts, clear elaboration, and precise use of economic terminologies, language and phrasing. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> ➤ Well-labelled and well-referred to diagram(s) drawn with precision (where appropriate). ➤ Relevant examples and accurate use of facts. ➤ Logical structure. 	L1 1-4 marks	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> ➤ GOOD breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of relevance and significance in answering the question. ➤ GOOD depth in economic analysis that reflects the following in ALL explanations. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> ➤ Diagram(s) that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate). ➤ Example(s). ➤ Logical structure. 	E2 2 marks	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> ➤ A synthesis of earlier economic arguments to arrive at relevant judgements/decisions (i.e. answer the question). ➤ Well-explained criteria-based evaluative comments supported by accurate and clear analysis to provide fairness in views. ➤ A good summative conclusion. 	E1 1 mark <u>OR</u>	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> ➤ Relevant but unexplained evaluative judgement(s) / statement(s) i.e. evaluative judgement(s) / statement(s) not supported by analysis. ➤ A relevant conclusion.
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Paper 1 – Case Study Question 2

Questions & Suggested Answers		Marks
(a)	(i) State what happened to the British pound sterling effective exchange rate between the Q1 2014 and Q4 2016.	[2]
	The British pound sterling effective exchange rate depreciated in value between Q1 2014 and Q4 2016. [1 mark]. However, it was rising over the period Q1 2014 to Q3 2015 [1 mark] before decreasing thereafter. (ii) Using a demand and supply diagram, explain the cause of the trend observed in the Sterling Effective Exchange Rate Index in 2016.	[4]
	The main cause was a loss of investor confidence due to Britain's decision to exit from the EU (Brexit). [1 mark] This resulted in capital flight from the UK. This caused an increase in SS of sterling pound [1 mark] from S_0 to S_1 in the foreign exchange market. At the same time, as fewer foreign investors would want to invest in the UK. This means a decrease in the demand for UK sterling pounds from D_0 to D_1 . [1 mark]	
	 <p>Figure 1: Market for Sterling Pound</p>	
(b)	With reference to Table 3, calculate and compare the net income flow (including transfers) in the UK current account balance with that of the US.	[2]
	UK's current account balance is -5.8% of GDP while its balance of trade is -2% of GDP. Hence, its net income flow should be -3.8% of GDP. US's current account balance is -2.4% of GDP while its balance of trade is -2.8% of GDP. Hence its net income flow should be +0.4% of GDP. This shows that UK experienced a net income outflow, while US had a net income inflow.	
(c)	Explain how a free trade agreement between the EU and Canada might affect a small dairy farmer in Belgium.	[4]
	Since a free trade agreement would mean a removal or reduction of tariffs on imports, dairy farmers in Belgium will now have to compete with cheaper imports from Canada, thus forcing them to lower their price as well ie. "selling their milk at world price". [1 mark] Given that the demand for milk is likely to be price inelastic, the revenue of dairy farmers will fall [1 mark] as price decreases, resulting in a decline in profit. Moreover, small dairy farmers tend to have higher costs compared to large multi-nationals, due to their lack of economies of scale. [1 mark] Coupled with the higher taxes in Belgium, the small dairy farmers may end up incurring losses [1 mark].	
(d)	Given that membership in the EU means free movement of goods, labour and capital among member countries, assess the possible impact of Brexit on the UK economy.	[8]
	Introduction:	

- The departure of UK from the EU (Brexit) would mean that firms in UK would no longer have free access to European markets and that labour and capital might not be allowed to move freely between UK and EU countries.

Body:

Negative Impact

- Loss of confidence and capital outflow – One of the major effects of Brexit is the loss of investor confidence, as mentioned in Extract 4. Brexit means that UK firms would no longer have free access to European markets and may thus face tariff barriers in exporting to EU countries. This could cause a fall in exports. This also causes investors to have a pessimistic outlook of the UK economy. The fall in exports as well as capital flight would thus cause a worsening of UK's Balance of Payments.
- Fall in AD and economic growth – The fall in X and I leads to a fall in AD, which results in a fall in real output and hence economic growth. With the fall in real output, less labour will be needed, and an increase in unemployment. As shown in Fig 2 below, the fall in AD due to fall in X and I causes real output to decrease from Y_0 to Y_1 , resulting in lower or even negative economic growth.

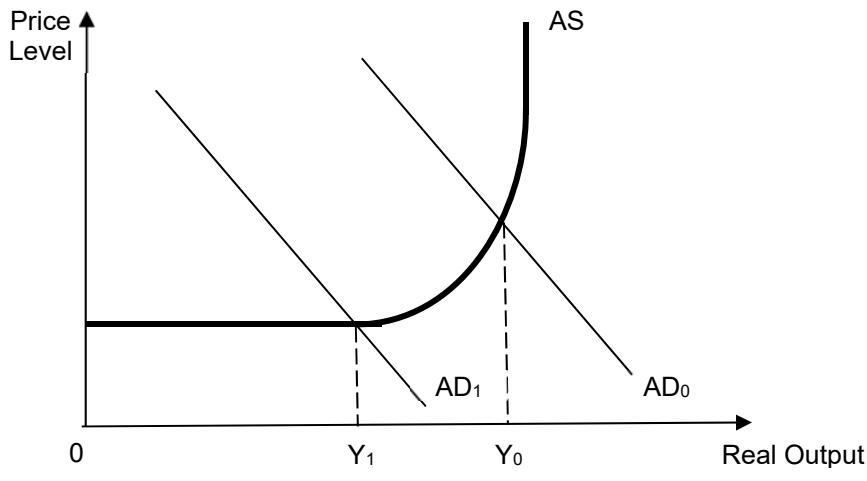


Figure 2

- Labour outflow – In addition, the loss of confidence and negative outlook could also cause people in UK to relocate to the EU. The fall in LRAS can lead to a rise in general price level in the long term, as productive capacity becomes a constraint.
- Currency depreciation and cost of imports – With the capital outflow due to pessimistic outlook and fall in net exports, the exchange rate of the sterling pound will depreciate, causing imports to be more expensive in SGD, leading to cost-push inflation

Positive Impact

- Fall in exchange rate and improvement in BoT – This leads to an improvement in Balance of Trade and increase in AD, resulting in a more than proportionate increase in real national income via the multiplier effect, and hence an increase in economic growth rate.
- Greater autonomy to establish Free Trade Agreements with other countries. This can allow UK to tap new opportunities in other foreign markets and expand its trade with the rest of the world. This can help to boost its exports and hence spur economic growth.
- While the movement of UK firms to Europe or other countries may worsen its balance of payments in the short run, it can generate higher profits which are repatriated back to UK in future, thus improvement in its Balance of Payments.

- | | |
|--|---|
| | <ul style="list-style-type: none"> Brexit also means that UK can now restrict the influx of immigrants into the country. This reduces the social problems caused by migrant workers, thus contributing to an improvement in non-material aspect of standard of living. |
|--|---|

Conclusion

- | | |
|--|---|
| | <ul style="list-style-type: none"> As discussed above, Brexit can have both positive and negative impact on the UK economy. In the short term, the impact is likely to be more negative as the loss of investor confidence as well as increase in barriers to trade with the EU could lead to a decline in UK's economic growth and worsen its balance of payments position. |
|--|---|

Mark Scheme

Level	Descriptors
Level 2 4-6	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> ➤ EXCELLENT breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of relevance and significance in answering the question. ➤ EXCELLENT depth in economic analysis that reflects the following in ALL explanations. <ul style="list-style-type: none"> ✓ Accurate use of economic concepts, clear elaboration, and precise use of economic terminologies, language and phrasing.. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> ➤ Well-labelled and well-referred to diagram(s) drawn with precision (where appropriate). ➤ Relevant examples and accurate use of facts. ➤ Logical structure.
Level 1 1-3	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> ➤ GOOD breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of relevance and significance in answering the question. ➤ GOOD depth in economic analysis that reflects the following in ALL explanations. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> ➤ Diagram(s) that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate). ➤ Example(s). ➤ Logical structure.

Evaluation

E2 2 marks	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> ➤ A synthesis of earlier economic arguments to arrive at relevant judgements/decisions (i.e. answer the question). ➤ Well-explained criteria-based evaluative comments supported by accurate and clear analysis to provide fairness in views. ➤ A good summative conclusion.
E1 1	For an evaluation that contains

	mark	<p>➤ Relevant but unexplained evaluative judgement(s) / statement(s) i.e. evaluative judgement(s) / statement(s) not supported by analysis.</p> <p>OR</p> <p>➤ A relevant conclusion.</p>	
(e)	Discuss the factors that determine the extent to which globalisation is beneficial to different countries.		[10]
	<p>Introduction:</p> <ul style="list-style-type: none"> Explain that globalisation refers to the increasing integration of national economies in terms of financial flows, trade, movement of factors of production, flow of information and technology. <p>Body:</p> <p>Possible benefits of globalisation include:</p> <ul style="list-style-type: none"> Increase AD due to increase in net exports and FDI → economic growth and fall in unemployment Lower prices due to cheaper imports and increased variety of goods → increase in consumer welfare Outsourcing and offshoring increases profitability of firms → higher profits and higher wages in home country Technology and labour flows improve efficiency and reduce costs in recipient countries. <p>The extent of benefit to different countries depends on various factors</p> <ol style="list-style-type: none"> Nature of economy <ul style="list-style-type: none"> Globalisation allows countries to gain access to foreign markets → increase in exports → BoT improve and (X-M) increases → AD increases → more than proportionate increase in real output. Moreover, the increase in real output → fall in unemployment. One key factor determining the extent to which globalisation is beneficial to a country is the nature of its economy. Being small in size and population, Singapore has a relatively small domestic market. This means there is limited scope for domestic firms in the country to expand if they were to focus only on the domestic market. With globalisation, Singapore is able to export its goods and services to the rest of the world. The increase in export revenue is a key driver of growth, as AD increases leading to an increase in real output and hence economic growth. Globalisation also benefits consumers as it allows a country to import goods at lower prices (compared to domestic goods) and increases the variety of goods available to consumers. <ol style="list-style-type: none"> State of economy or state of development <ul style="list-style-type: none"> Globalisation also cause increase in FDI flows between countries. Developing countries like China and Vietnam experience FDI inflow → increase in AD → increase in real output. Increase in capital also leads to increase in productive capacity → increase in LRAS → potential growth Countries like Mexico operating in the Keynesian range where there is substantial spare capacity, will likely benefit more from globalisation, as the increase in AD due to the increase in X and I, will lead to an increase in real output. By contrast, developed countries which operate near full employment will gain less from globalisation, as the increase in AD will lead to demand-pull inflation. <ol style="list-style-type: none"> Terms of Trade/Type of goods that the country has comparative advantage <ul style="list-style-type: none"> While globalisation increases the volume of trade between countries and allows a country to increase its exports and imports, the extent to which a country gains from trade depends on its terms of trade, which is the ratio between its export price to import price. Countries may face unfavourable terms of trade if the price of their exports is much lower compared to prices of imports. The revenue earned from exports may be lower than the expenditure on imports which are much more expensive, leading to a deficit in the country's balance of trade. <ol style="list-style-type: none"> Trading relations / Trade policies <ul style="list-style-type: none"> The extent to which countries benefit from globalisation also depends on its trade policies and trading relations with other countries Countries that embrace free trade will benefit more in terms of allowing more imports into the country, thus enabling consumers to enjoy wider variety of goods as well as possibly cheaper 		

- goods. As mentioned in Extract 6, “trade with China alone put \$250 a year into the pocket of every American by 2008 due to cheaper goods.”
- Conversely, if the country imposes tariff barriers on imports, it will result in higher prices of imports, thus reducing the welfare of consumers as well as increasing the cost of imported inputs for producers.

Conclusion / Overall Evaluation:

- As discussed above, globalisation can be beneficial to some countries but can also cause challenges to other countries. The extent to which globalisation is beneficial to different countries depends on various factors such as the nature of the economy, the state of development, the terms of trade, the trade policies of countries concerned.

Mark Scheme

Level	Descriptors
L2 5-7 marks	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> EXCELLENT breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of relevance and significance in answering the question. EXCELLENT depth in economic analysis that reflects the following in ALL explanations. <ul style="list-style-type: none"> Accurate use of economic concepts, clear elaboration, and precise use of economic terminologies, language and phrasing. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> Well-labelled and well-referred to diagram(s) drawn with precision (where appropriate). Relevant examples and accurate use of facts. Logical structure.
L1 1-4 marks	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> GOOD breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of relevance and significance in answering the question. GOOD depth in economic analysis that reflects the following in ALL explanations. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> Diagram(s) that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate). Example(s). Logical structure.

Evaluation

E2 2 marks	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> A synthesis of earlier economic arguments to arrive at relevant judgements/decisions (i.e. answer the question). Well-explained criteria-based evaluative comments supported by accurate and clear analysis to provide fairness in views. A good summative conclusion.
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		E1 1 mark	For an evaluation that contains ➤ Relevant but unexplained evaluative judgement(s) / statement(s) i.e. evaluative judgement(s) / statement(s) not supported by analysis. OR ➤ A relevant conclusion.	
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2018 SH2 H2 Economics Prelims

Paper 2 – Essay Questions (Section A)

- Q1.** Rising cost of laying water pipes and continued income growth have contributed to the significant increase in price of water in Singapore. This is expected to affect the operations of the food and beverage industry.
- (a) Explain why rising cost of laying water pipes and continued income growth may have contributed to the large increase in price of water. [10]
- (b) Discuss how the above factors may impact the markets for restaurant and hawker food in Singapore. [15]

Suggested Answer Outline:

Part (a)

Introduction

- The large increase in price of water can be attributed to relevant demand and supply factors as well as using price elasticity of demand (PED) and price elasticity of supply (PES).
- The demand factor would be the increased income growth and the supply factor would be the rising cost of laying water pipes.

Body

Demand factor combined with PES

- Continued income growth contributes to the increase in price of water. Given Singaporeans now have a higher disposable income, this would lead to a large increase in demand for luxury goods such thus leading to a large increase in demand for water as it is used for production of these goods.
- The increase in income leads to a more than proportionate increase in demand of water from D_0 to D_1 , thus leading to a large rise in price of water.
- In addition, the supply of water is price inelastic which also contributes to the large increase in price. This is because it is difficult for Singapore to increase its supply of water quickly in response to an increase in price. Hence, an increase in demand leads to a more than proportionate increase in price of water from P_0 to P_1 , ceteris paribus.

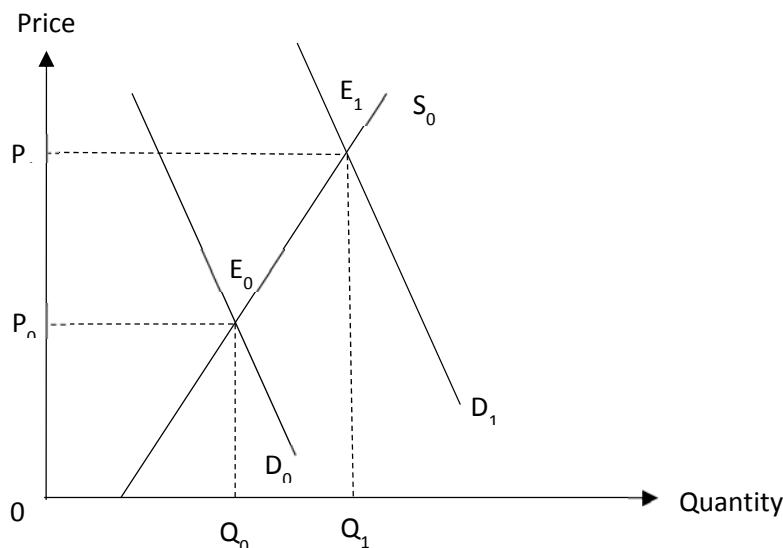


Figure 1: DD with PES in market of water

Supply factor combined with PED

- The increase in cost of building water pipes can lead to an increase in price of water. The increase in cost of producing water for Public Utilities Board (PUB), leads to a fall in supply of water from S_0 to S_1 , thus leading to an increase in price.

- The demand for water is price inelastic due to its high degree of necessity in subsistence and production of goods. There is also a lack of close substitutes to water. Hence, a fall in supply leads to a more than proportionate increase in price of water from P_0 to P_1 , ceteris paribus.

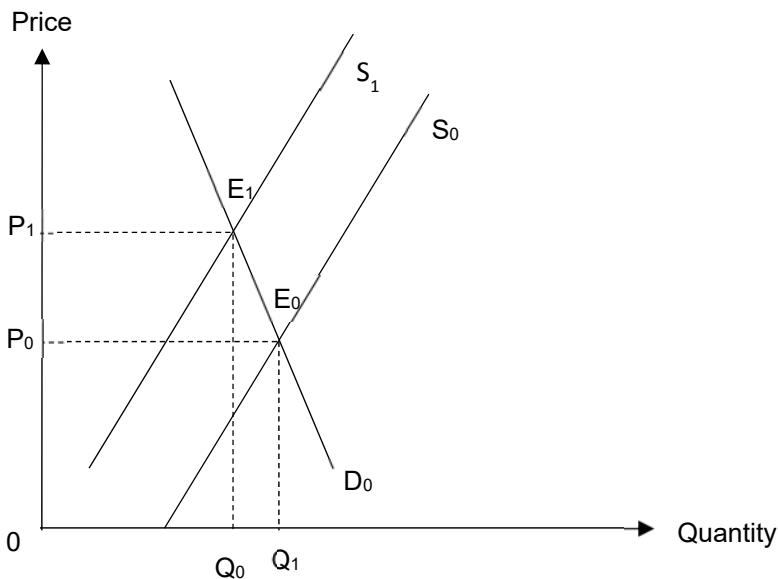


Figure 2: SS with PED for market of water

Simultaneous shifts with price mechanism

- With a simultaneous increase in demand and fall in supply of water, at original price P_0 , there is a shortage of Q_0Q_1 . This exerts an upwards pressure on price resulting in a significant increase in price of water from P_0 to P_1 .

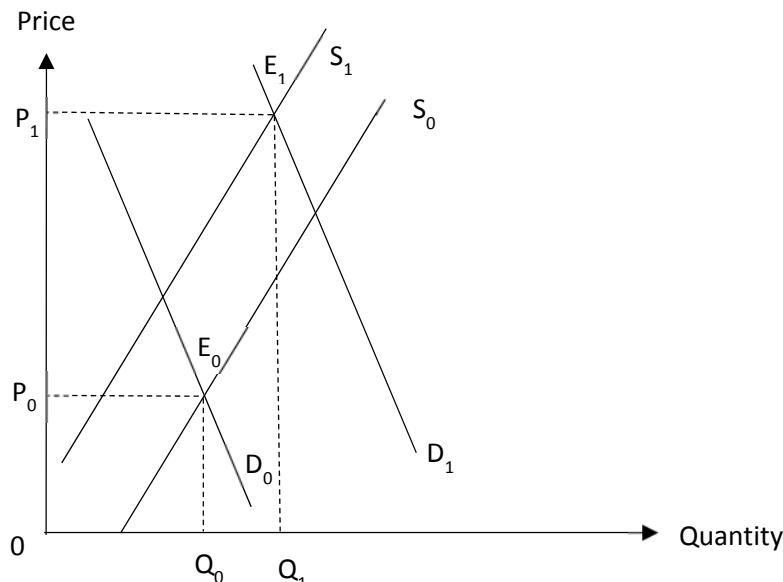


Figure 3: Simultaneous shifts in market of water

Conclusion

- Overall, demand and supply factors combined with inelastic demand and supply led to an increase in price of water significantly which has an adverse impact on the operations of the food and beverage industry.

Marks Scheme:

Levels	Descriptors
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	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> ✓ EXCELLENT breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of relevance and significance in answering the question. ✓ EXCELLENT depth in economic analysis that reflects the following in ALL explanations. ✓ Accurate use of economic concepts, clear elaboration, and precise use of economic terminologies, language and phrasing. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> ✓ Well-labelled and well-referred to diagram(s) / tool(s) of analysis drawn with precision (where appropriate). ✓ Relevant examples and accurate use of facts. ✓ Logical structure.
	<p>For an answer that demonstrates knowledge and understanding but lacks application and analysis:</p> <ul style="list-style-type: none"> ➢ At least GOOD breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. MOST points chosen should be of relevance and significance in answering the question. ➢ At least GOOD depth in economic analysis that reflects the following in MOST explanations. ➢ Accurate use of economic concepts, clear elaboration, and precise use of economic terminologies, language and phrasing. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> ➢ Diagram(s) / Tool(s) of analysis that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate). ➢ Example(s). ➢ Logical structure.
	<p>For an answer that demonstrates knowledge but lacks understanding, application and analysis:</p> <ul style="list-style-type: none"> ➢ INSUFFICIENT breadth that considers the following economic concept(s). Point(s) chosen may be of relevance but may not be of significance in answering the question. ➢ INSUFFICIENT depth in economic analysis that may reflect the following: ✓ Lack of accuracy in the use of economic concepts, lack of clarity in elaboration, and lack of precision in the use of economic terminologies, language and phrasing.
	<p>For an answer that:</p> <ul style="list-style-type: none"> ➢ Is irrelevant in analysis but may contain an introduction that addresses the question or contains no economic analysis but may contain a few statements that are relevant to the concepts required to answer the question. ➢ Contains fundamental conceptual errors in analysis.

Part (b)

Introduction

- The impact on the market for restaurant and hawker food is determined by the change in equilibrium price and quantity in these markets. Equilibrium is attained when the demand curve intersects with the supply curve. The above factors of increased price of water and continued income growth would affect the markets for restaurant and hawker centre differently by changing both supply and demand of their markets.

Body

Version 1 (excellent depth by focusing on total revenue changes)

Impact on restaurant food

- The increased cost of water leads to a fall in supply of restaurant food, ceteris paribus, due to increase in cost of production. This is seen from an upward shift of supply curve from S_0 to S_1 . Given that demand for restaurant food is price elastic, this fall in supply leads to a smaller fall in quantity from Q_0 to Q_1 relative to the larger increase in price of restaurant food from P_0 to P_1 . This leads to a fall in total revenue given area $0P_1E_1Q_1$ is smaller than area $0P_0E_0Q_0$.

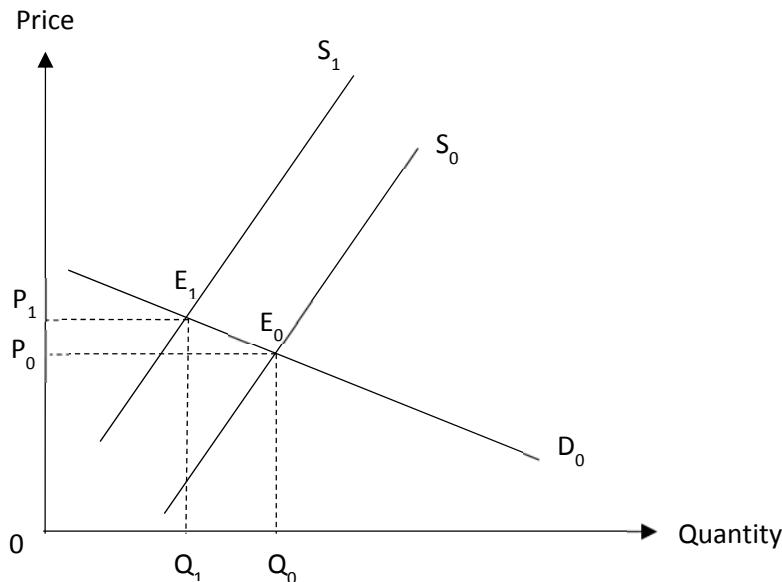


Figure 1: SS with PED for restaurant market

- With an increase in income, this leads to an increase in demand for restaurant food, ceteris paribus. The demand for restaurant food is income elastic as it is a luxury good. Thus, the increase in demand is more than proportionate given the increase in income from D_0 to D_1 , leading to a large increase in both price and quantity of restaurant food.
- It is likely the increase in demand would outweigh the fall in supply.
- Overall, this would lead to a shortage in the market for restaurant food, leading to an upward pressure on price until shortage is resolved, hence the equilibrium price increased from P_0 to P_1 and quantity increased from Q_0 to Q_1 . Total revenue increases as area $0P_1E_1Q_1$ is greater than area $0P_0E_0Q_0$.

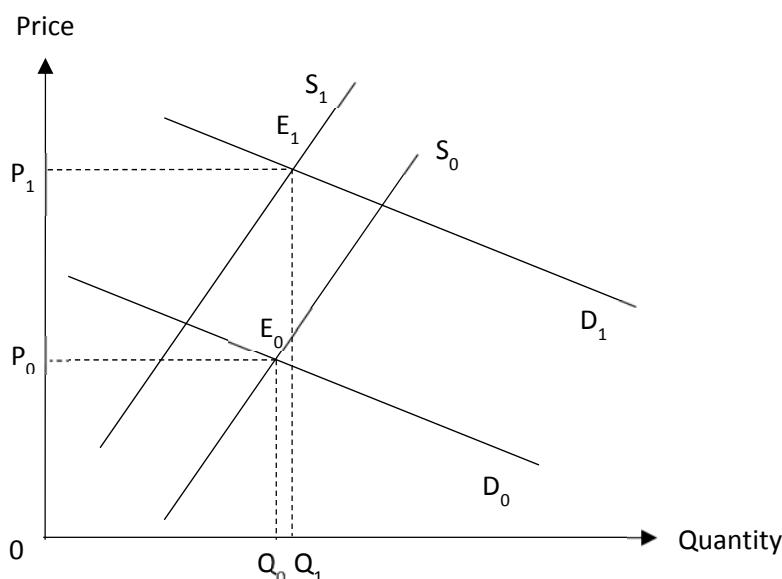


Figure 2: Simultaneous shifts in restaurant market

Impact on hawker food (normal good)

- The increased cost of water is likely to increase the cost of production of hawker food in the same manner as restaurant food. Thus, supply of hawker food decreases. The demand for hawker food is price inelastic due to the lack of close substitutes. Hence, the fall in supply leads to a large increase in price relative to the smaller fall in quantity of hawker food. This leads to a fall in total revenue as area $0P_1E_1Q_1$ is smaller than area $0P_0E_0Q_0$.

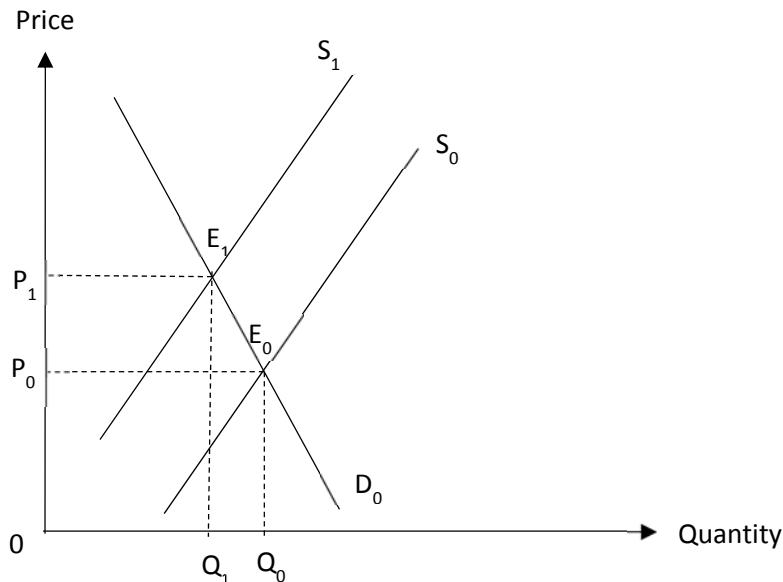


Figure 3: SS with PED for hawker food market

- The increase in income of Singaporeans would lead to an increase in demand for hawker food as it is a normal good. Hawker food is a necessity and the demand for hawker food is income inelastic. Hence an increase in income leads to a less than proportionate increase in demand for it from D_0 to D_1 , leading to a small increase in both price and quantity of hawker food.
- The increase in demand is likely to be smaller than the fall in supply of hawker food as demand for hawker food is income inelastic. At initial price, there exists a shortage which exerts an upward pressure on price until it is eliminated, hence overall price of hawker food increases significantly from P_0 to P_1 and quantity decreases marginally from Q_0 to Q_1 . Total revenue still increases as area $0P_1E_1Q_1$ is bigger than area $0P_0E_0Q_0$.

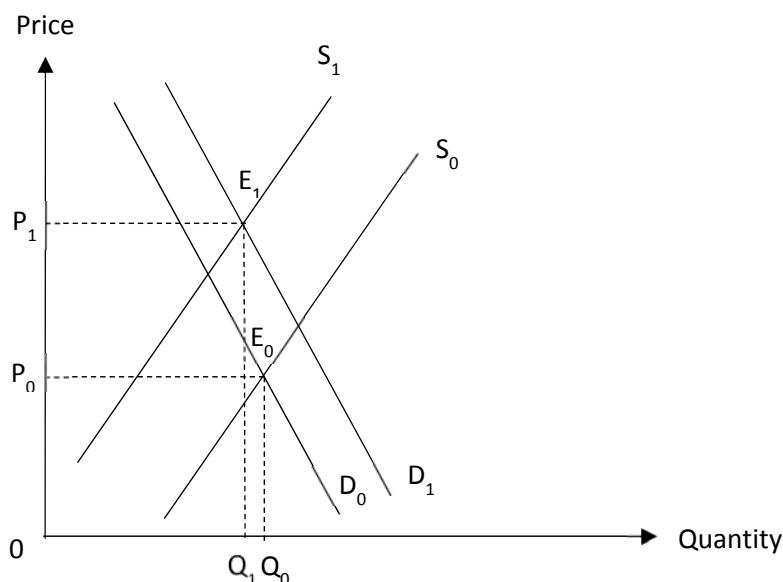


Figure 4: Simultaneous shifts for hawker food market

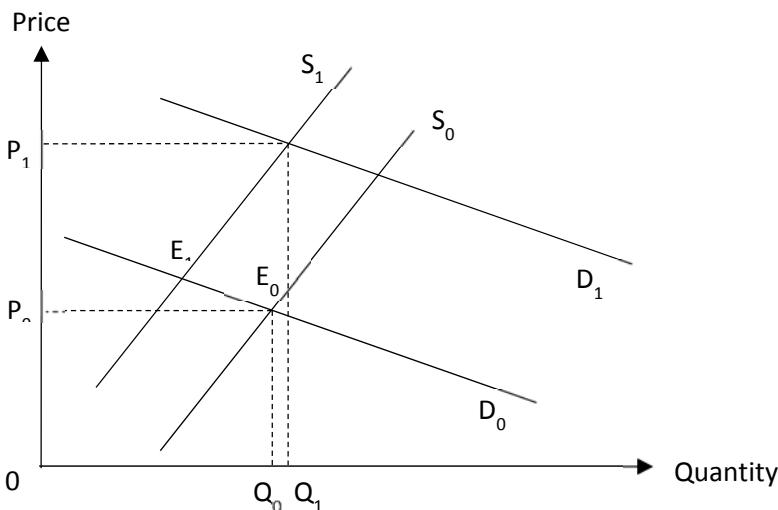


Figure 1: Simultaneous shifts in restaurant market

Evaluation Conclusion

- The above analysis assumes that there are no other factors mentioned in the preamble happening which may not be the case in reality
- In addition, the above analysis may be altered if the YED values changed. For example, wealthy Singaporeans may view restaurant food as necessities, hence an increase in income leads to a less than proportionate increase in demand.

Marks scheme:

Levels	Descriptors
L3 8 - 10	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> EXCELLENT breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of relevance and significance in answering the question. EXCELLENT depth in economic analysis that reflects the following in ALL explanations. Accurate use of economic concepts, clear elaboration and precise use of economic terminologies, language and phrasing. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> Well-labelled and well-referred to diagram(s) /tool(s) of analysis drawn with precision (where appropriate). Relevant examples and accurate use of facts. Logical structure.
L2 5 - 7	<p>For an answer that demonstrates knowledge and understanding but lacks application and analysis:</p> <ul style="list-style-type: none"> At least GOOD breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. MOST points chosen should be of relevance and significance in answering the question. At least GOOD depth in economic analysis that reflects the following in MOST explanations. Accurate use of economic concepts, clear elaboration, and precise use of economic terminologies, language and phrasing. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> Diagram(s) /tool(s) of analysis that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate). Example(s).

	<ul style="list-style-type: none"> ➤ Logical structure.
High L1 3 - 4	<p>For an answer that demonstrates knowledge but lacks understanding, application and analysis:</p> <ul style="list-style-type: none"> ➤ INSUFFICIENT breadth that considers the following economic concept(s). Point(s) chosen may be of relevance but may not be of significance in answering the question. ➤ INSUFFICIENT depth in economic analysis that may reflect the following: <ul style="list-style-type: none"> ✓ Lack of accuracy in the use of economic concepts, lack of clarity in elaboration, and lack of precision in the use of economic terminologies, language and phrasing.
Low L1 1 - 2	<p>For an answer that:</p> <ul style="list-style-type: none"> ➤ Demonstrates POOR breadth and POOR depth in economic analysis. ➤ Is irrelevant in analysis but may contain an introduction that addresses the question or contains no economic analysis but may contain a few statements that are relevant to the concepts required to answer the question. ➤ Contains fundamental conceptual errors in analysis.
Levels	Descriptors
E3 4 - 5	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> ➤ A synthesis of earlier economic arguments to arrive at relevant judgements/decisions (i.e. answer the question). ➤ Well-explained criteria-based evaluative comments supported by accurate and clear analysis to provide fairness in views. ➤ A good summative conclusion.
E2 2 - 3	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> ➤ Relevant judgement(s)/decision(s) (i.e. answer the question) that may not follow from earlier economic arguments. ➤ Criteria-based evaluative comment(s) supported by analysis to provide fairness in views but the comment(s) may not be well-explained, may be unclear and/or may be inaccurate at times.
E1 1	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> ➤ Relevant but unexplained evaluative judgement(s)/statement(s) i.e. evaluative judgement(s)/statement(s) not supported by analysis or ➤ A relevant conclusion.

Q2. The petrol retailing industry in Singapore has long been dominated by a few large players such as Shell, Caltex, ExxonMobil and SPC.

- (a) Explain how barriers to entry can affect a firm's price and output decisions. [10]
- (b) Discuss whether a firm should mainly compete based on pricing strategies in an industry like petrol retailing. [15]

Suggested Answer Outline:

Part (a)

Introduction

- Barriers to entry refer to the various forms of restrictions or obstacles which prevent/deter new firms from entering a market to compete with incumbent firms. They could either be natural (e.g. economies of scale/ownership of key resources) or artificially erected (e.g. legal barriers; branding).

Body

1. Perfectly Competitive market with totally no barriers to entry

- In a perfectly competitive market, the non-existence of barriers to entry allows for a large number of firms, each with no market power and is a price taker.
- Since there are no barriers to entry, new firms can easily enter the market, resulting in a highly competitive market with many sellers.
- This is reflected by the perfectly elastic demand curve faced by the PC firm.
- Therefore, each perfectly competitive firm becomes a price taker and sells at a profit-maximizing level of output, where $MC=MR$ and at the market price determined by the market demand and supply.

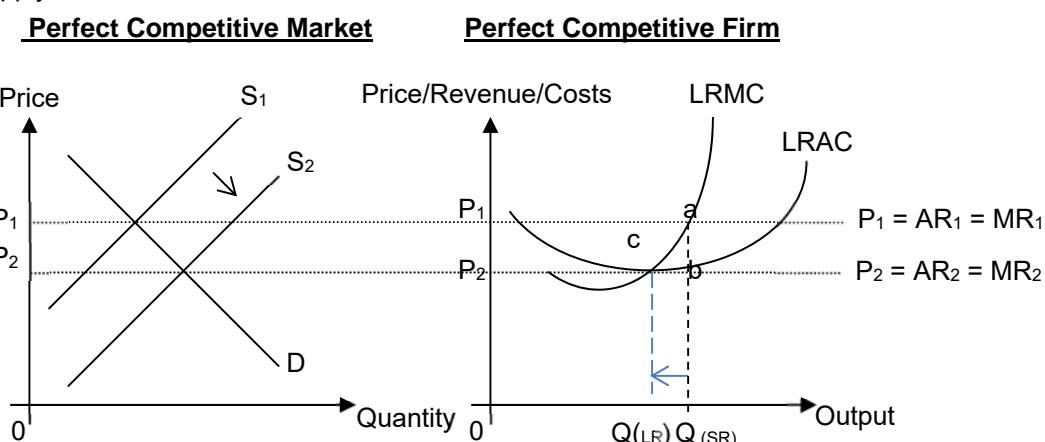


Fig 1: Long run adjustment of the Perfect Competitive firm

- From Figure 1, we see that in the short run, the market demand and supply determined the price at P_1 . Output for all profit maximising firms will be at $MC=MR$.
- Hence, a perfectly competitive firm which is a price-taker enjoys supernormal profits in the short-run. It produces an output of $Q(SR)$ where $MC=MR_1$ and P_1 is above average cost (AC) price at P_1 ,
- However in the long run: such supernormal profit, represented by the area P_1abc will attract new firms into the market.
- When new firms are attracted into the industry, the market supply increased.
- Firms will continue entering the industry until each firm charges P_2 and earns only normal profit in the long-run, with profit-maximizing price P_2 equals to average cost ($LRAC$ and $LRMC$).

Impact of No barriers to entry on firm's price and output decisions

- Perfect competitive firms are price takers in both SR and LR. Price is determined by the market equilibrium where $DD=SS$
- Output of the firm is determined where $MC=MR$ in order to maximise profit

2. Monopolistic firms in industries with high barriers to entry

- Conversely, the existence of high barriers to entry protects a monopoly from potential competitors, limiting the market to one dominant seller.
- As a result, the industry demand curve is in fact the monopolist's demand curve, which is downwards sloping demand in Figure 2. This means that a monopolist has its ability to set its own price, unlike a perfectly competitive firm which has to be a price taker.
- Similarly, a monopolist profit-maximizes at $MC=MR$, with price P_1 and quantity Q_1 .

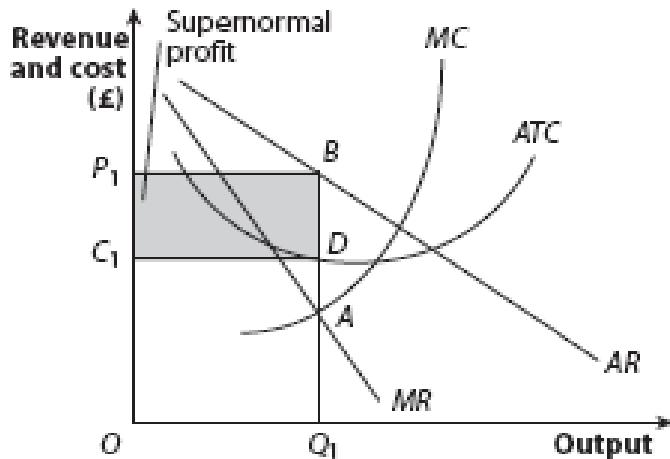


Fig 2: A monopolist equilibrium (short and long-run)

In the LR:

The existence of high barriers to entry allows a monopoly to set profit-maximizing price with supernormal profits, both in the short-run and long-run.

- With high barriers to entry preventing the entry of new firms, the monopolist's supernormal profit is not competed away by potential competitors and hence is able to retain its supernormal profits in the long-run.

Impact of High barriers to entry on firm's price and output decisions

- Monopoly is a price setter in SR and LR
- Price and output are set at the profit-maximising level where $MC=MR$

Conclusion

- From the above analysis it is clear that barriers to entry play a key role in price and output decisions of firms in a market.

Marks Scheme:

Levels	Descriptors
L3 8 - 10	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> ✓ EXCELLENT breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of relevance and significance in answering the question. ✓ EXCELLENT depth in economic analysis that reflects the following in ALL explanations. ✓ Accurate use of economic concepts, clear elaboration, and precise use of economic terminologies, language and phrasing. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> ✓ Well-labelled and well-referred to diagram(s) / tool(s) of analysis drawn with precision (where appropriate). ✓ Relevant examples and accurate use of facts.

	Logical structure.
L2 5 - 7	<p>For an answer that demonstrates knowledge and understanding but lacks application and analysis:</p> <ul style="list-style-type: none"> ➢ At least GOOD breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. MOST points chosen should be of relevance and significance in answering the question. ➢ At least GOOD depth in economic analysis that reflects the following in MOST explanations. ➢ Accurate use of economic concepts, clear elaboration, and precise use of economic terminologies, language and phrasing. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> ➢ Diagram(s) / Tool(s) of analysis that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate). ➢ Example(s). ➢ Examples may lack accuracy ➢ Logical structure.
High L1 3 - 4	<p>For an answer that demonstrates knowledge but lacks understanding, application and analysis:</p> <ul style="list-style-type: none"> ➢ INSUFFICIENT breadth that considers the following economic concept(s). Point(s) chosen may be of relevance but may not be of significance in answering the question. ➢ INSUFFICIENT depth in economic analysis that may reflect the following: <ul style="list-style-type: none"> ✓ Lack of accuracy in the use of economic concepts, lack of clarity in elaboration, and lack of precision in the use of economic terminologies, language and phrasing.
Low L1 1 - 2	<p>For an answer that:</p> <ul style="list-style-type: none"> ➢ Is irrelevant in analysis but may contain an introduction that addresses the question or contains no economic analysis but may contain a few statements that are relevant to the concepts required to answer the question. ➢ Contains fundamental conceptual errors in analysis.

Part (b)

Introduction

- Firms in such an industry operate in an oligopolistic market. A key characteristic of such a market is mutual interdependence between the few dominant firms in the industry, where the actions of one firm will directly impact the other firms in the industry.

Body

Petroleum retailing industry in Singapore

Market features:

- Few large, dominant firms relative to market size (e.g., Singapore Petroleum Company (SPC), ExxonMobil, Shell, Caltex)
- Significant barriers to entry
- Differentiated product.
- Due to the existence of a few dominant firms in the market selling a differentiated product, petrol retailers, are notable examples of non-collusive (competitive) oligopolies due to the unique characteristic of mutual interdependence.

1. **Anti-Thesis 1: This uniformity in price and price rigidity can be explained using the kinked demand-curve model ie Why firms in such an industry do not commonly compete based on price strategies.**

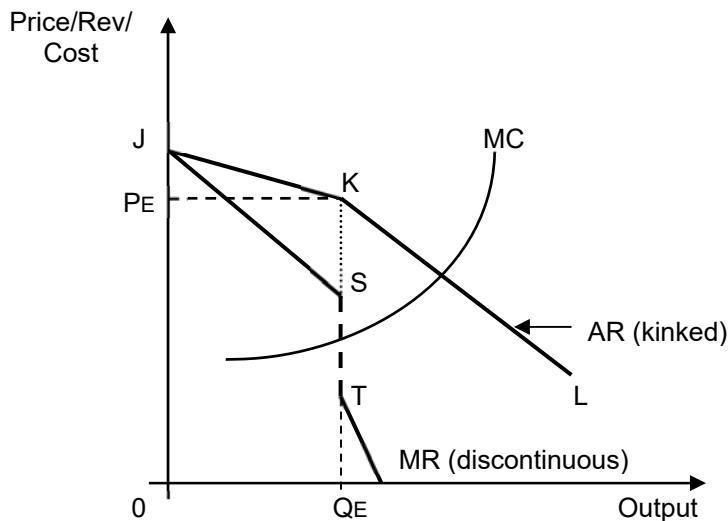


Fig 3: Kinked Demand curve of firm in Oligopolistic market

- Assuming rival petrol firms do not match price increases, if say SPC raises its price independently above PE, it will find its quantity sold fall more than proportionately as most of his customers will switch to the relatively cheaper substitute in ExxonMobil, Shell and Caltex, resulting in a fall in revenue. Hence, at output prices above PE, the oligopolist faces a relatively price-elastic demand (AR) curve.
- By the same argument, as rival firms are assumed to match any price reduction, when SPC lowers its price, it will not sell proportionately more of its output and revenue will fall, so it faces a relatively price inelastic demand curve at prices below PE .
- The price is 'rigid' at PE as oligopolistic firms in such an industry have little incentive to independently change prices for fear of the impact of the reaction of their rivals.

2. Anti- Thesis 2: Non-Price Competition is largely the main strategy for firms in such an industry to compete

- Hence petrol retailers largely focus more on non-price strategies. These include both product differentiation and product innovation.
- Firms in an oligopolistic industry have the ability to invest in R and D and due to their ability to earn supernormal profits in the long run due to high barriers to entry. They also have the incentive to do so due to the keen competition with their rivals.
- Hence petrol companies also invest in finding more efficient and cleaner fuel and advertise heavily through the mainstream media.
- Through such non-price strategies, the petrol firm can increase the demand for their product and hence earn higher revenue.

3. Anti-Thesis 3: However, it does not mean the Oligopolies do not adopt any price strategies at all. (Tacit collusion)

- Although collusion is not allowed by laws against anti-competitive practices (e.g. price fixing or cartel). There is possibility of tacit collusion in the form of price leadership in oligopoly markets that have one significant dominant firm/ leader.
- However, this means that oligopolies generally do not use pricing strategies unless they choose to collude instead of compete.

4. Anti-Thesis 4: Oligopolies may also choose to form cartels to fix prices instead of compete

- A formal and contractual collusive agreement is called a cartel. A cartel may be defined as a group of firms (Oligopolies) which agree to cooperate and act jointly in setting their output as a group or fixing the price of their product. The Organisation of the Petroleum Exporting Countries (OPEC) is probably the best known of all cartels.
- More commonly, a cartel will decide to restrict their output in the market (thus raising the price), or fix the price of their product. For example, OPEC decides on the output of oil they will produce in the form of production quotas for each member country.

5. Thesis: However, at times, oligopolies do engage in price war to gain market share

- Although oligopolies are often characterised by price rigidity, price competition is not altogether absent among some oligopolies. In fact, price competition can be intense and described as 'price wars'.
- Sporadic price wars happen among the major petrol retail outlets in Singapore. However, price wars often last for a very short period of time.
- In some cases, the dominant oligopolistic firm may deliberately lower its price below the profit maximising level in order to drive out its competitors. This is known as predatory pricing.

Evaluative Conclusion

- Due to the nature of such an oligopolistic industry, where a few dominant firms exist, the industry is characterised by mutual interdependence of the firms which leads to price rigidity and the lack of use of pricing strategies to compete. This can be seen by how firms appear to follow a price leadership model, although explicit collusion is not allowed in Singapore.
- Hence with the exception of very rare price wars, firms in such an industry largely compete based on non-price strategies such as branding, customer loyalty and R and D in order to continue to increase their market share and profits in the long run.

Marks Scheme

Levels	Descriptors
L3 8 - 10	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> ➢ EXCELLENT breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of relevance and significance in answering the question. ➢ EXCELLENT depth in economic analysis that reflects the following in ALL explanations. ➢ Accurate use of economic concepts, clear elaboration and precise use of economic terminologies, language and phrasing. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> ➢ Well-labelled and well-referred to diagram(s) /tool(s) of analysis drawn with precision (where appropriate). ➢ Relevant examples and accurate use of facts. ➢ Logical structure.
L2 5 - 7	<p>For an answer that demonstrates knowledge and understanding but lacks application and analysis:</p> <ul style="list-style-type: none"> ➢ At least GOOD breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. MOST points chosen should be of relevance and significance in answering the question. ➢ At least GOOD depth in economic analysis that reflects the following in MOST explanations. ➢ Accurate use of economic concepts, clear elaboration, and precise use of economic terminologies, language and phrasing. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> ➢ Diagram(s) /tool(s) of analysis that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate). ➢ Example(s). ➢ Logical structure.
High L1 3 - 4	<p>For an answer that demonstrates knowledge but lacks understanding, application and analysis:</p> <ul style="list-style-type: none"> ➢ INSUFFICIENT breadth that considers the following economic concept(s). Point(s) chosen may be of relevance but may not be of significance in answering the question.

	<ul style="list-style-type: none"> ➤ INSUFFICIENT depth in economic analysis that may reflect the following: <ul style="list-style-type: none"> ✓ Lack of accuracy in the use of economic concepts, lack of clarity in elaboration, and lack of precision in the use of economic terminologies, language and phrasing.
Low L1 1 - 2	<p>For an answer that:</p> <ul style="list-style-type: none"> ➤ Demonstrates POOR breadth and POOR depth in economic analysis. ➤ Is irrelevant in analysis but may contain an introduction that addresses the question or contains no economic analysis but may contain a few statements that are relevant to the concepts required to answer the question. ➤ Contains fundamental conceptual errors in analysis.
Levels	Descriptors
E3 4 - 5	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> ➤ A synthesis of earlier economic arguments to arrive at relevant judgements/decisions (i.e. answer the question). ➤ Well-explained criteria-based evaluative comments supported by accurate and clear analysis to provide fairness in views. ➤ A good summative conclusion.
E2 2 - 3	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> ➤ Relevant judgement(s)/decision(s) (i.e. answer the question) that may not follow from earlier economic arguments. ➤ Criteria-based evaluative comment(s) supported by analysis to provide fairness in views but the comment(s) may not be well-explained, may be unclear and/or may be inaccurate at times.
E1 1	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> ➤ Relevant but unexplained evaluative judgement(s)/statement(s) i.e. evaluative judgement(s)/statement(s) not supported by analysis or ➤ A relevant conclusion.

Q3. MediShield Life is a state insurance scheme that provides lifelong protection for all Singapore Citizens and Permanent Residents against large hospital bills. It has co-payment features such as claim limits, deductible, and co-insurance to ensure that those insured share the burden of medical bills with the government.

Discuss the appropriateness of the Singapore government's approach in addressing the market failure due to imperfect information and asymmetric information in the market for healthcare and its related markets. [25]

Suggested Answer Outline

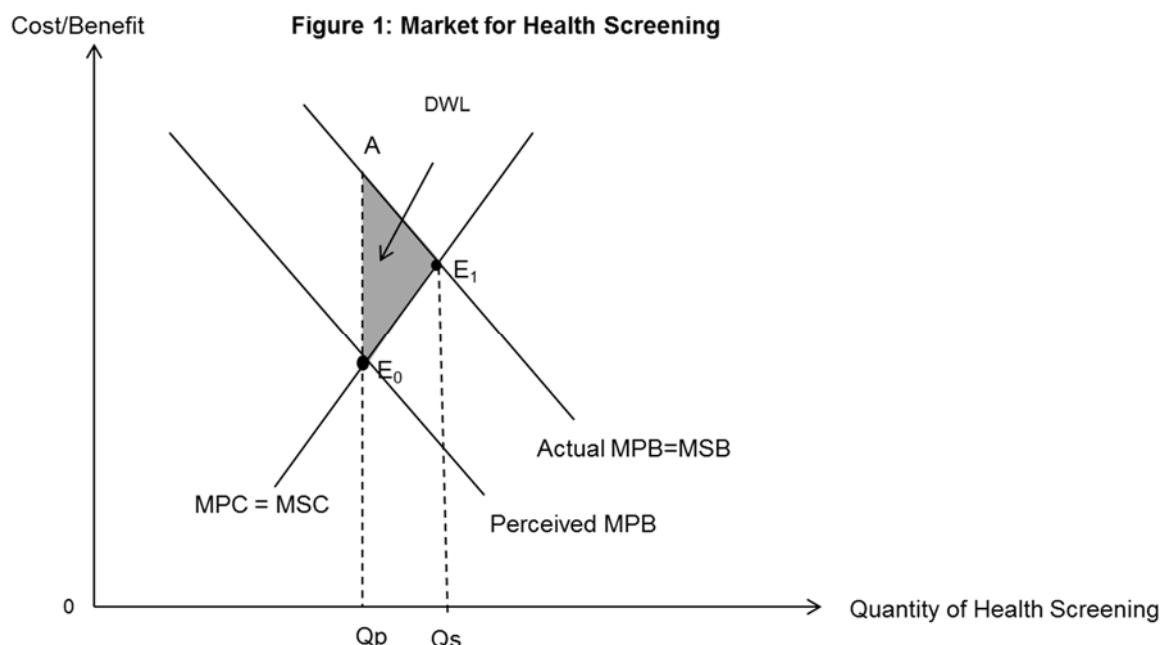
Introduction

- State the sources of market failure in the market of health insurance.
- State the policies to address these sources of market failure.

Body

Explain imperfect information as the source of market failure in the market for healthcare

- Define imperfect information:
 - Imperfect information occurs when the economic agents (consumers or producers) are unable to accurately value the true cost and/or benefit of a good or service because they have inaccurate, incomplete, uncertain, or misunderstood data and therefore make potentially "wrong" decision.
- In the market of healthcare, there could be imperfect information about the benefits of "consuming" healthcare. This means that there is a difference between the value of the perceived benefit and the actual benefit.
- When the consumers go for health screening, they only consider perceived MPB and Marginal Private Cost (MPC) which is the cost of health screening. Hence, as shown in figure 1, they will consume at Q_p unit of health screening. However, the actual MPB is higher than the perceived MPB. This means the socially optimum level of output is at Q_s unit. As Q_p is less than Q_s , there is an under-consumption of health screening.
- With an under-consumption of Q_p at Q_s , there is the welfare loss/deadweight loss to the society which is the area AE_1E_0 . There is a need to increase output to Q_s unit of healthcare to increase social welfare and to achieve allocative efficiency.



Explain asymmetric information as the source of market failure in the market of health insurance

- Define asymmetric information

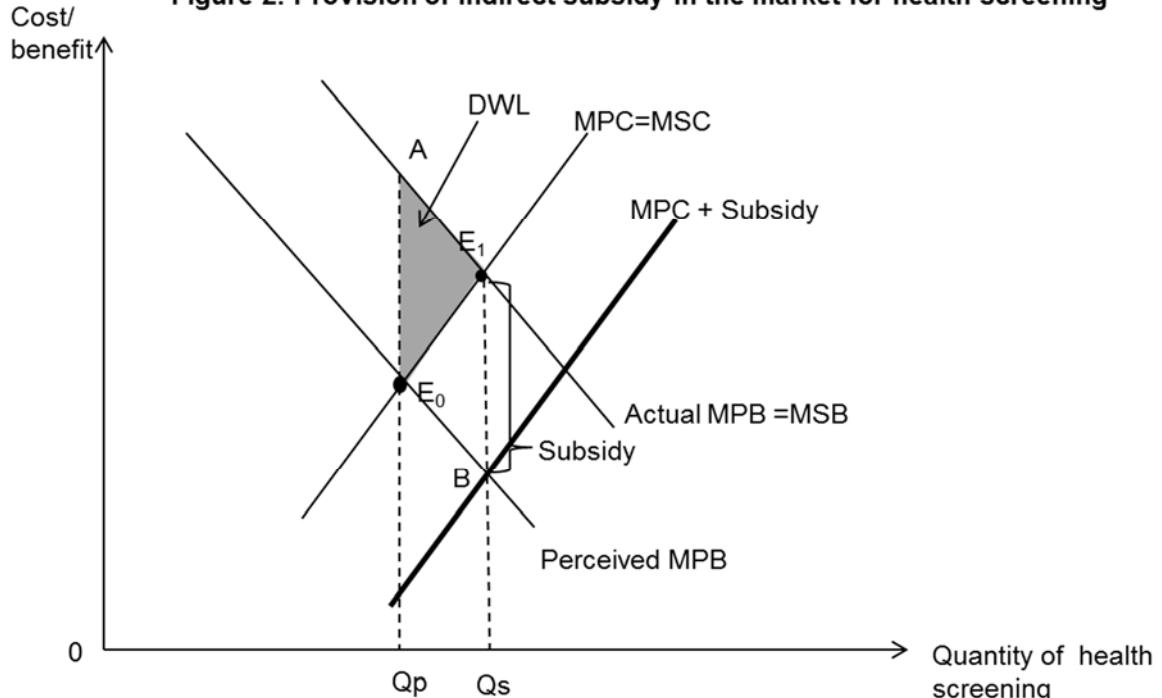
- Asymmetric information is a case where one party in the market (either buyers or sellers) has more information about the product than the other resulting in a distortion of incentives and inefficient market outcomes
- Adverse selection
 - Adverse selection occurs when due to asymmetric information; potential buyers can only offer an average price between that of good-type and bad-type. Thus, this leads to good-type leaving the market as the price offered is too low. The eventual outcome of adverse selection is the case where the market is only left with the bad-type and hence, the market will eventually collapse as no consumer is willing to pay the amount for the bad-type good.
 - In the market of healthcare, adverse selection is more likely to exist in the context of health insurance. People who buy health insurance usually know much more about their general health than any insurance company can hope to know. As a result, insurance companies will raise their premiums to cover their losses which force the price of insurance to increase.
 - Therefore, the health insurance market can fail completely because insurance companies will not want to sell health insurance to unhealthy people as that can become really unprofitable.
- Moral hazard
 - Moral hazard exists when one party to a transaction has the ability to shift costs onto other party and thus engages in more risky activities that could be detrimental to society.
 - Moral hazard arises in health insurance as the incentive to lead a healthy lifestyle is reduced when the medical bills of the insured is covered by the insurance.
 - Hence, the insurance companies might raise the premiums to deal with increase in costs.

Explain how Singapore government's approaches address imperfect information in the market for healthcare

1. Provision of subsidies

- Define subsidy
- In Singapore, the healthcare services providers include polyclinics, public hospitals and private hospitals. Polyclinics and public hospitals receive subsidies from government so that they can provide subsidised medical services to the patients.

Figure 2: Provision of indirect subsidy in the market for health screening



- With reference to figure 2, the amount of indirect subsidy should be equal to E1B which is the gap between actual and perceived MPB. This will shift MPC downwards to MPC + subsidy. Consumers

will now be able to consume at socially optimal level of output as perceived MPB cuts MPC + subsidy at Qs unit of health screening.

- With an increased consumption, there will be a removal of deadweight loss (DWL) to society.
- Limitations/Evaluation:
 - The implementation of the indirect subsidy might cause strain in the government budget.
 - Even though subsidy is able to increase the consumption level to the socially optimum level of output, it does not address the imperfect information.

2. Education/campaign/advertisements

- Singapore government also undertakes education and campaigns to encourage residents to go for various types of healthcare services such as health screening or immunisation by informing the public of the benefit of consuming healthcare.
- Limitations/Evaluation:
 - The effectiveness of such policies depends on the receptiveness and the willingness of the consumers to digest the information provided and to go for the health screening.
 - It might also take a long time for the consumers to change their lifestyle and habit.

3. Regulation

- Government also has regulations to ensure that certain healthcare services are consumed. This is to ensure that such services are consumed at the socially optimum level of output.

Explain how Singapore government's approaches address asymmetric information in the market for healthcare

MediShield Life

- In addition to subsidies, Singapore government has also implemented 3M framework (Medisave, MediShield Life, and MediFund), the financial framework that incorporates personal responsibility with risk pooling and community support, to ensure that healthcare is affordable for all.
- MediShield Life is a compulsory basic health insurance plan, administered by Central Provident Fund (CPF), which helps to pay large hospital bills and selected costly outpatient treatment, such as dialysis and chemotherapy.
- The co-payment feature of MediShield helps to better share the burden of the medical costs with the insured which helps in addressing the excessive medical claims due to moral hazard.
- Limitations/evaluation:
 - As MediShield is compulsory and provided at the subsidised rate, it might cause strain in the government budget.

Evaluative Conclusion

- Whether Singapore government's approach in addressing the presence of imperfect and asymmetric information in the market of healthcare is appropriate depends on the sustainability of the policies. Some of the policies require public financing which might cause strain in the government budget.

Marks Scheme

Levels	Descriptors
High L3 18 - 20	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> ✓ EXCELLENT breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of relevance and significance in answering the question. ➤ EXCELLENT depth in economic analysis that reflects the following in ALL explanations. <ul style="list-style-type: none"> ✓ Accurate use of economic concepts, clear elaboration and precise use of economic terminologies, language and phrasing. <p>The answer should also be supported by:</p>

	<ul style="list-style-type: none"> ➤ Well-labelled and well-referred to diagram(s) / tool(s) of analysis drawn with precision (where appropriate). ➤ Relevant examples and accurate use of facts. ➤ Logical structure.
Low L3 15 - 17	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> ➤ At least VERY GOOD breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. MOST points chosen should be of relevance and significance in answering the question. ➤ At least VERY GOOD depth in economic analysis that reflects the following in MOST explanations. <ul style="list-style-type: none"> ✓ Accurate use of economic concepts, clear elaboration, and precise use of economic terminologies, language and phrasing. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> ➤ Well-labelled and well-referred to diagram(s) / tool(s) of analysis drawn with precision (where appropriate). ➤ Relevant example(s) and accurate use of facts. ➤ Logical structure.
High L2 12 - 14	<p>For an answer that demonstrates knowledge and understanding but lacks application and analysis:</p> <ul style="list-style-type: none"> ➤ At least GOOD breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. MOST points chosen should be of relevance and significance in answering the question. ➤ At least GOOD depth in economic analysis that reflects the following in MOST explanations. <ul style="list-style-type: none"> ✓ Accurate use of economic concepts, clear elaboration, and precise use of economic terminologies, language and phrasing. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> ➤ Diagram(s) / Tool(s) of analysis that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate). ➤ Example(s). ➤ Logical structure.
Low L2 9 - 11	<p>For an answer that demonstrates knowledge and understanding but lacks application and analysis:</p> <ul style="list-style-type: none"> ➤ At least SUFFICIENT breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. SOME points chosen should be of relevance and significance in answering the question. ➤ At least SUFFICIENT depth in economic analysis that reflects the following in SOME explanations. <ul style="list-style-type: none"> ✓ Accurate use of economic concepts, clear elaboration, and precise use of economic terminologies, language and phrasing. <p>The answer should also be supported by:</p>

	<ul style="list-style-type: none"> ➤ Diagram(s) / Tool(s) of analysis that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate). ➤ Example(s). ➤ Logical structure.
High L1 5 - 8	<p>For an answer that demonstrates knowledge but lacks understanding, application and analysis:</p> <ul style="list-style-type: none"> ➤ INSUFFICIENT breadth that considers the following economic concept(s). Point(s) chosen may be of relevance but may not be of significance in answering the question. ➤ INSUFFICIENT depth in economic analysis that may reflect the following: <ul style="list-style-type: none"> ✓ Lack of accuracy in the use of economic concepts, lack of clarity in elaboration, and lack of precision in the use of economic terminologies, language and phrasing. ○ Minimal or no contextualisation.
Low L1 1 - 4	<ul style="list-style-type: none"> ➤ Demonstrates POOR breadth and POOR economic analysis. ➤ Is irrelevant in analysis but may contain an introduction that addresses the question or contains no economic analysis but may contain a few statements that are relevant to the concepts required to answer the question. ➤ Contains fundamental conceptual errors in analysis.
Levels	Descriptors
E3 4 - 5	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> ➤ A synthesis of earlier economic arguments to arrive at relevant judgements/decisions (i.e. answer the question). ➤ Well-explained criteria-based evaluative comments supported by accurate and clear analysis to provide fairness in views. ➤ A good summative conclusion.
E2 2 - 3	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> ➤ Relevant judgement(s)/decision(s) (i.e. answer the question) that may not follow from earlier economic arguments. ➤ Criteria-based evaluative comment(s) supported by analysis to provide fairness in views but the comment(s) may not be well-explained, may be unclear and/or may be inaccurate at times.
E1 1	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> ➤ Relevant but unexplained evaluative judgement(s)/statement(s) i.e. evaluative judgement(s)/statement(s) not supported by analysis or ➤ A relevant conclusion.

Paper 2 – Essay Questions (Section B)

- Q4. Singapore's monetary policy has been centred on the management of the exchange rate instead of the management of interest rate.**

Discuss whether the factors limiting the effectiveness of interest rate policy are key in determining the choice of exchange rate centred monetary policy instead of interest rate policy in achieving Singapore's macroeconomic goals. [25]

Suggested Answer Outline:

Introduction

- Monetary policy involves the manipulation of interest rates or money supply by the Central Bank in order to influence the level of economic activity of the country in pursuance of macroeconomic objectives.
- State 4 macro aims:
 - Sustained economic growth
 - Low unemployment rate
 - Low inflation rate
 - Healthy Balance of Payment

Body

Explain the working of interest rate centred monetary policy

- Monetary Policy is the discretionary control of money supply or interest rates by Central Bank to influence the level of Aggregate Demand (AD) and hence, economic activity.
- Monetary policy can be expansionary or contractionary
 - Expansionary monetary policy refers to deliberate increase of money supply or lowering of interest rates in order to raise Aggregate Demand (AD).
 - Contractionary monetary policy refers to deliberate reduction of money supply and raising of interest rates in order to lower AD.
- With reference to figure 1, when a country adopts expansionary Monetary Policy to boost economic growth, the increase in money supply will lead to a surplus of money (excess liquidity) at r_0 , causing the interest rate to fall. The fall in interest rate from r_0 to r_1 leads to a rise in investment from I_0 to I_1 . An increase in investment causes AD to rise. If originally AD is at AD_0 , increase in investment (I) will shift AD from AD_0 to AD_1 and this will result in an increase in national income and rise in general price level. This means the expansionary monetary policy has been successful in attaining non-inflationary economic growth. However, if AD is originally at AD_2 , increase in investment will lead a rightward shift of AD from AD_2 to AD_3 . This will cause a rise in both national income and general price level.

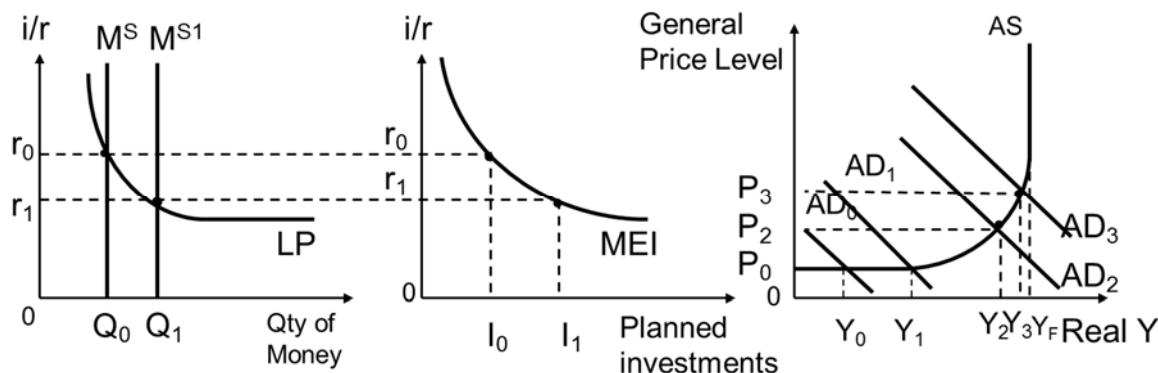


Figure 1: Effect of Expansionary Monetary Policy

- There will be an increase in the demand for labour, leading to a fall in unemployment level, especially cyclical unemployment.

Thesis: the factors limiting the effectiveness of interest rate policy are key in determining the choice of exchange rate centred monetary policy instead of interest rate policy in achieving macroeconomic goals.

Monetary Policy is the demand management policy that mainly aims to achieve price stability as a basis for sustained economic growth. These are the factors that will affect the extent of change in investment and the eventual effect on national income and general price level.

Explain the factors that limit the effectiveness of interest rate policy

1. Interest-elasticity of demand of money (Liquidity Preference)

- The more interest-elastic the demand for money, the smaller will be the fall in interest rate given an increase in money supply. The smaller the fall in interest rate, the less significant is its impact on investment and thus the smaller the change in AD. This means that expansionary monetary policy will have a weak effect on the economy.

2. Interest-elasticity of Marginal Efficiency of Investment (MEI)

- The more interest-inelastic the Marginal Efficiency of Investment (MEI) curve, the smaller the change in investment given a fall in interest rate and hence, the less effective is the monetary policy.
- In the context of Singapore, investment is considered to be relatively interest-inelastic, indicating that any changes in interest rates will lead to a less than proportionate change in investment, ceteris paribus. As such, interest rates centred monetary policy might not be an appropriate choice for Singapore.

3. Business expectation

- The economic outlook can affect business expectations which in turn influence firms' decision to invest.
- If economic outlook is positive and incomes are expected to increase, expected future returns of investment will increase, there will be rightward shift of MEI curve. Hence, even with the implementation of contractionary monetary policy to restrict AD, investment can still increase.
- On the other hand, if the economic outlook is negative and incomes are expected to fall, firms will expect the demand for their products to fall and to receive less profit in the future. Therefore, there will be a leftward shift of MEI curve. So, even with the implementation of the expansionary monetary policy to increase AD, investment will still fall.

4. Size of multiplier

- The smaller the size of multiplier, the weaker is the effect on national income and economic growth, given a change in investment and AD.
- For instance, Singapore has a small multiplier size due to huge leakages. Therefore, with the implementation of expansionary monetary policy which aims to achieve economic growth, the increase in investment and AD will not cause a significant increase in national income.

Anti-Thesis: Other factors are more important in determining the choice of exchange rate centred monetary policy instead of interest rate policy in achieving macroeconomic goals.

1. Nature of the economy

- Nature and size of the economy is one the determining factors when the government chooses between interest rate and exchange rate centred MP.
- For example, Singapore is a small and open economy and is very dependent on imported raw materials, increase in the price of the imported goods will result in the higher prices of final goods and services produced in Singapore. Therefore, Singapore is very prone to import price-push inflation.
- Therefore, Singapore chooses to adopt exchange rate centred monetary policy to curb the imported inflation. With gradual and modest appreciation of Singapore Dollar, the prices of imported goods and raw materials will be relatively cheaper in domestic currency, ceteris paribus. Therefore resulting in an increase in SRAS, curbing inflation.
- However, it is noted that with appreciation, the price of export will be relatively more expensive in the foreign currency, ceteris paribus. This will result in the decrease of demand for exports.

- With increase in import expenditure and decrease in export revenue, there will be a worsening of Balance of Trade which might also cause the worsening of the Balance of Payment.

2. Openness to capital flow

- An economy's openness to capital flows will affect the ability of the country to control money supply or interest rates, affecting the choice of the policy.
- As international financial centre with free movement of capital, Singapore is very open to capital flows, hence it is difficult to control our domestic money supply.
- In addition, Singapore is a price taker in the world market for funds due to its small size.
- Hence, given that Singapore is a price taker in the world market for funds, Singapore is unable to use interest rate centred monetary policy to affect aggregate demand to achieve economic growth.

Other factors that contribute to the choice of policy in Singapore:

- Policy Trilemma**
- Openness to capital flow**
- Nature of the economy**

Marks Scheme

Levels	Descriptors
High L3 18 - 20	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> EXCELLENT breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of relevance and significance in answering the question. EXCELLENT depth in economic analysis that reflects the following in ALL explanations. <ul style="list-style-type: none"> ✓ Accurate use of economic concepts, clear elaboration and precise use of economic terminologies, language and phrasing. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> Well-labelled and well-referred to diagram(s) / tool(s) of analysis drawn with precision (where appropriate). Relevant examples and accurate use of facts. Logical structure.
Low L3 15 - 17	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> At least VERY GOOD breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. MOST points chosen should be of relevance and significance in answering the question. At least VERY GOOD depth in economic analysis that reflects the following in MOST explanations. <ul style="list-style-type: none"> ✓ Accurate use of economic concepts, clear elaboration, and precise use of economic terminologies, language and phrasing. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> Well-labelled and well-referred to diagram(s) / tool(s) of analysis drawn with precision (where appropriate). <ul style="list-style-type: none"> <i>Good use of diagrams that are adequately explained</i> Relevant example(s) and accurate use of facts. <ul style="list-style-type: none"> <i>Some attempts at contextualisation with some relevant examples.</i> Logical structure.

High L2 12 - 14	<p>For an answer that demonstrates knowledge and understanding but lacks application and analysis:</p> <ul style="list-style-type: none"> ➤ At least GOOD breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. MOST points chosen should be of relevance and significance in answering the question. ➤ At least GOOD depth in economic analysis that reflects the following in MOST explanations. <ul style="list-style-type: none"> ✓ Accurate use of economic concepts, clear elaboration, and precise use of economic terminologies, language and phrasing. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> ➤ Diagram(s) / Tool(s) of analysis that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate). <ul style="list-style-type: none"> ○ <i>Relevant diagrams drawn but not well explained or clear explanation in absence of diagrammatical analysis.</i> ➤ Example(s). ➤ Logical structure.
Low L2 9 - 11	<p>For an answer that demonstrates knowledge and understanding but lacks application and analysis:</p> <ul style="list-style-type: none"> ➤ At least SUFFICIENT breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. SOME points chosen should be of relevance and significance in answering the question. ➤ At least SUFFICIENT depth in economic analysis that reflects the following in SOME explanations. <ul style="list-style-type: none"> ✓ Accurate use of economic concepts, clear elaboration, and precise use of economic terminologies, language and phrasing. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> ➤ Diagram(s) / Tool(s) of analysis that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate). ➤ Example(s). ➤ Logical structure.
High L1 5 - 8	<p>For an answer that demonstrates knowledge but lacks understanding, application and analysis:</p> <ul style="list-style-type: none"> ➤ INSUFFICIENT breadth that considers the following economic concept(s). Point(s) chosen may be of relevance but may not be of significance in answering the question. ➤ INSUFFICIENT depth in economic analysis that may reflect the following: <ul style="list-style-type: none"> ✓ Lack of accuracy in the use of economic concepts, lack of clarity in elaboration, and lack of precision in the use of economic terminologies, language and phrasing.
Low L1 1 - 4	<ul style="list-style-type: none"> ➤ Demonstrates POOR breadth and POOR economic analysis. ➤ Is irrelevant in analysis but may contain an introduction that addresses the question or contains no economic analysis but may contain a few statements that are relevant to the concepts required to answer the question. ➤ Contains fundamental conceptual errors in analysis.

Levels	Descriptors
E3 4 - 5	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> ➢ A synthesis of earlier economic arguments to arrive at relevant judgements/decisions (i.e. answer the question). ➢ Well-explained criteria-based evaluative comments supported by accurate and clear analysis to provide fairness in views. ➢ A good summative conclusion.
E2 2 - 3	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> ➢ Relevant judgement(s)/decision(s) (i.e. answer the question) that may not follow from earlier economic arguments. ➢ Criteria-based evaluative comment(s) supported by analysis to provide fairness in views but the comment(s) may not be well-explained, may be unclear and/or may be inaccurate at times.
E1 1	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> ➢ Relevant but unexplained evaluative judgement(s)/statement(s) i.e. evaluative judgement(s)/statement(s) not supported by analysis or ➢ A relevant conclusion.

Q5. Brazil's Gross Domestic Product (GDP) contracted by 3.6% in 2016 and this has led to calls from policy makers to use discretionary fiscal policy to stimulate the economy.

- (a) Explain why a government cannot rely solely on automatic stabilisers and instead uses discretionary fiscal policy to address the concerns of an economic recession. [10]
- (b) Discuss whether demand management policies are more important than supply side policies in attaining inclusive economic growth for an economy experiencing recession. [15]

Suggested Answer Outline:

Introduction

- A recession is defined as two consecutive quarters of a fall in real GDP. During a period of economic recession, a country is facing concerns such as falling living standards and rise in cyclical unemployment

Body

Concerns of a recession

- A recession is caused by a fall in AD which can be due to a fall in any autonomous injections such as consumption, government expenditure, investment and net exports. This causes a fall in real national income. The fall in disposable income and purchasing power of households cause a decline in consumption of goods and services, leading to a lower material living standard.
- In addition, the fall in real output reduces the demand for labour, leading to higher cyclical unemployment.
- Moreover, consumers and investors may develop a pessimistic outlook of the economy, hence further reducing C and I respectively which lowers AD and real national output even further.

How automatic stabilisers work in an economy once in place

- Without any deliberate intervention from a government, automatic stabilisers would dampen the fall in AD automatically through tools such as progressive tax system and unemployment benefits.

Progressive tax system

- A country with a progressive tax system in place taxes the rich proportionately more than the poor. When incomes fall due to a recession, more of its citizens would fall into the lower income tax brackets by design and this implies that the fall in tax payments would be faster than the fall in income. Hence, this would lower the extent of fall in disposable income, leading to a smaller decline in consumption levels, AD decreases by a smaller extent and the effects of a recession is cushioned.

Unemployment benefits

- A government can give out unemployment benefits to their citizens when they lose their jobs. Given a recession, more citizens would be unemployed and they would be eligible to receive some form of unemployment benefits. The fall in disposable income is reduced with these transfer payments, leading to a smaller fall in consumption and AD, thus mitigating the recession.

Workings of discretionary Fiscal Policy with brief multiplier process explanation

- Given the inadequacies of the automatic stabilisers, the government is likely to engage in expansionary fiscal policy to stimulate its economy. The government could decide to spend more on building infrastructure projects, leading to increase in government expenditure.
- In addition, the government could reduce its personal income tax for its citizens which would raise the consumption of goods and services. Likewise, a fall in corporate income tax means higher post-tax profits for firms and lead to an increase in investment given more funds now to invest.
 - The combined increase in consumption, investment and government spending would increase AD and increase real national income.

Conclusion

- Automatic stabilisers can only smoothen the fluctuations in the economy and when these are too large, in the case of a recession, expansionary fiscal policy is more effective to bring the economy out of a recession due to the multiplier effect.

Marks Scheme:

Levels	Descriptors
L3 8 - 10	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> ✓ EXCELLENT breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of relevance and significance in answering the question. ✓ EXCELLENT depth in economic analysis that reflects the following in ALL explanations. ✓ Accurate use of economic concepts, clear elaboration, and precise use of economic terminologies, language and phrasing. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> ✓ Well-labelled and well-referred to diagram(s) / tool(s) of analysis drawn with precision (where appropriate). ✓ Relevant examples and accurate use of facts. Logical structure.
L2 5 - 7	<p>For an answer that demonstrates knowledge and understanding but lacks application and analysis:</p> <ul style="list-style-type: none"> ➢ At least GOOD breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. MOST points chosen should be of relevance and significance in answering the question. ➢ At least GOOD depth in economic analysis that reflects the following in MOST explanations. ➢ Accurate use of economic concepts, clear elaboration, and precise use of economic terminologies, language and phrasing. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> ➢ Diagram(s) / Tool(s) of analysis that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate). ➢ Example(s). ➢ Logical structure.
High L1 3 - 4	<p>For an answer that demonstrates knowledge but lacks understanding, application and analysis:</p> <ul style="list-style-type: none"> ✓ INSUFFICIENT breadth that considers the following economic concept(s). Point(s) chosen may be of relevance but may not be of significance in answering the question. ✓ INSUFFICIENT depth in economic analysis that may reflect the following: ✓ Lack of accuracy in the use of economic concepts, lack of clarity in elaboration, and lack of precision in the use of economic terminologies, language and phrasing.
Low L1 1 - 2	<p>For an answer that:</p> <ul style="list-style-type: none"> ➢ Is irrelevant in analysis but may contain an introduction that addresses the question or contains no economic analysis but may contain a few statements that are relevant to the concepts required to answer the question. ➢ Contains fundamental conceptual errors in analysis.

Part (b)

Introduction

- A recession means there is a consecutive fall in real GDP for 2 quarters or more. The recession can be caused by either a fall in AD or a fall in SRAS. Inclusive economic growth is not attained and with a fall in living standards of a country's citizens, it is important for a government to intervene using relevant policies.

Body

Thesis: Demand management policies more important than supply side policies if recession is due to a fall in AD

Explanation of expansionary MP (Note: any alternative demand management policy like exchange rate and fiscal policy can be accepted)

- Demand management policies are more effective for a country facing a recession due to a fall in its AD. For example, a country like the USA can use expansionary monetary policy (MP). The central bank of USA can increase the money supply in its economy, hence decreasing interest rates.
- This reduces the cost of borrowing for firms and individuals, leading to an increase in I and C respectively. Since I and C are part of AD, this increases AD from, leading to an increase in real NY.

Limitations

- However, the effectiveness may be limited due to the MEI being interest inelastic.
- Expansionary monetary policy is unable to attain inclusive economic growth because although it increases real national income, it does not determine the distribution of this.
- Generally, demand management policies are more important than supply side policies as they target the lack of AD in an economy which supply side policies cannot do.

Alternative policy for thesis: Demand management policies more important than supply side policies if recession is caused by a fall in AD

Explanation of expansionary fiscal policy

- Another way of increasing AD during a recession is to use expansionary fiscal policy. A government can increase its development expenditure on public infrastructure projects and the construction of more hospitals and schools.
- The increase in government spending and consumption leads to increase in AD and a multiple increase in real national income via the multiplier effect which is based on the principle that expenditure creates income and income creates expenditure.

Limitations

- If the government is having a budget deficit and needs to finance its expenditure through borrowing, crowding out effect may occur.
- For any demand management policy, the effectiveness also depends on the multiplier size. A small multiplier limits the extent of increase in real NY when AD increases.

Anti-thesis: Supply side policies more important than demand management policies if recession is caused by fall in SRAS

Explanation of subsidies to mitigate recession caused by fall in SRAS

- If an economy is facing recession from a fall in SRAS, it is more pertinent to use SS policies. A fall in SRAS is caused by an increase in cost of production in an economy. This can lead to stagflation with rising prices and falling real output. If this is because of high oil prices in the global market, the government can consider giving subsidies to producers in the form of lower petrol prices at pump stations.
- In addition, this policy of giving fuel subsidies help to improve equity as a petrol cost takes up a larger proportion of income for lower income citizens as compared to higher income ones.

Limitations

- While giving fuel subsidies can help to reduce cost of production, this imposes a strain on the government budget. The increased subsidies incur an opportunity cost to the economy as it could have been spent on another area such as education.

Anti-thesis: Supply side policies more important than demand management policies if recession is caused by loss of comparative advantage

Explain incentives to restructure economy when the recession is caused by loss of comparative advantage for a trade reliant country

- If a trade reliant country experiences a fall in external demand due to a loss in its comparative advantage, supply side policies are more effective in addressing this than demand management policies.
- Supply side policies can be used to develop a new area of comparative advantage such as pharmaceutical industry. For example, the US government could give research and development grants to companies to encourage them to invest in this sector. This will lead to a fall in opportunity cost and this may be lower than its rival countries, hence developing a new comparative advantage.

Limitations

- Such projects usually take a long time to bear fruit, if any, due to the numerous iterations and tweaking that needs to be done after each experiment.

Evaluative conclusion

- In conclusion, demand management policies are generally more important than supply side policies if the root cause is a fall in AD while the reverse holds true if the root cause is a fall in SRAS.
- In reality, both demand management and supply side policies are used in combination to effectively address an economic recession in the short and long term due to the various strengths and limitations of each type of policy.

Marks Scheme

Levels	Descriptors
L3 8 - 10	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> EXCELLENT breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of relevance and significance in answering the question. EXCELLENT depth in economic analysis that reflects the following in ALL explanations. Accurate use of economic concepts, clear elaboration and precise use of economic terminologies, language and phrasing. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> Well-labelled and well-referred to diagram(s) /tool(s) of analysis drawn with precision (where appropriate). Relevant examples and accurate use of facts. Logical structure.
L2 5 - 7	<p>For an answer that demonstrates knowledge and understanding but lacks application and analysis:</p> <ul style="list-style-type: none"> At least GOOD breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. MOST points chosen should be of relevance and significance in answering the question. At least GOOD depth in economic analysis that reflects the following in MOST explanations. Accurate use of economic concepts, clear elaboration, and precise use of economic terminologies, language and phrasing.

	<p>The answer should also be supported by:</p> <ul style="list-style-type: none"> ➤ Diagram(s) /tool(s) of analysis that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate). ➤ Example(s). ➤ Logical structure.
High L1 3 - 4	<p>For an answer that demonstrates knowledge but lacks understanding, application and analysis:</p> <ul style="list-style-type: none"> ➤ INSUFFICIENT breadth that considers the following economic concept(s). Point(s) chosen may be of relevance but may not be of significance in answering the question. ➤ INSUFFICIENT depth in economic analysis that may reflect the following: <ul style="list-style-type: none"> ✓ Lack of accuracy in the use of economic concepts, lack of clarity in elaboration, and lack of precision in the use of economic terminologies, language and phrasing.
Low L1 1 - 2	<p>For an answer that:</p> <ul style="list-style-type: none"> ➤ Demonstrates POOR breadth and POOR depth in economic analysis. ➤ Is irrelevant in analysis but may contain an introduction that addresses the question or contains no economic analysis but may contain a few statements that are relevant to the concepts required to answer the question. ➤ Contains fundamental conceptual errors in analysis.

Levels	Descriptors
E3 4 - 5	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> ➤ A synthesis of earlier economic arguments to arrive at relevant judgements/decisions (i.e. answer the question). ➤ Well-explained criteria-based evaluative comments supported by accurate and clear analysis to provide fairness in views. ➤ A good summative conclusion.
E2 2 - 3	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> ➤ Relevant judgement(s)/decision(s) (i.e. answer the question) that may not follow from earlier economic arguments. ➤ Criteria-based evaluative comment(s) supported by analysis to provide fairness in views but the comment(s) may not be well-explained, may be unclear and/or may be inaccurate at times.
E1 1	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> ➤ Relevant but unexplained evaluative judgement(s)/statement(s) i.e. evaluative judgement(s)/statement(s) not supported by analysis or ➤ A relevant conclusion.

Q6. Evaluate the policies the Singapore government should adopt to improve global competitiveness in light of the potential conflicts with the achievement of macroeconomic goals. [25]

Suggested Answer Outline:

Introduction

- Singapore is a small and open economy that is heavily dependent on trade, due to our small domestic market and lack of resources for production.
- Therefore, the Singapore government needs to focus on appropriate policies to continuously improve our global competitiveness to boost our economy through our export demand. This includes reducing the price and improving the quality of our exports.

Body

Policy 1a: Exchange Rate policy (Depreciation of Singapore dollar)

- In a severe recession, to improve our global competitiveness by keeping the prices of our exports low, Singapore should directly reduce the price of our exports in terms of foreign currency through a depreciation of the Singapore dollar.
- Hence a depreciation of the Singapore dollar during times of recession, will help boost our global competitiveness and increase our export demand which will boost our aggregate demand and actual economic growth.

Limitations of policy 1a: Conflict with macro goal of Price stability

- A depreciation of the Singapore dollar would lead to higher import prices in terms of Singapore dollars. This would hence increase the cost of production of many of our industries. This would lead to a fall in Short Run Aggregate Supply (SRAS) and a rise in General Price level and cost push inflation in the economy.

Choice of Policy 1b due to Conflict: Gradual and modest appreciation of Singapore dollar

- Therefore during times of economic growth, where price stability is likely to be one of the main priorities of the government, Singapore generally maintains a policy of a gradual and modest appreciation of the Singapore dollar.
- Hence this helps mitigate any imported price push inflation due to inflation in our trading partners and has kept the inflation rate in Singapore generally low.

Limitations of Policy 1b

- However, an appreciation of our currency leads to an increase in the price of our exports in terms of foreign currency. If Marshall-Lerner condition holds in the long run, IE. The sum of the absolute value of the price elasticity of demand of our exports and imports is greater than 1, ($X-M$) and aggregate demand will fall in the long run, reducing actual growth.

Policy 2a: Supply side policies to overcome potential conflict of inflation in LR and problems with overdependence on external demand and FDI through improving our domestic industries

- The only way to maintain our global competitiveness in the long run is through our supply side policies. This is largely done by the Singapore government through efforts to increase R and D as well as retraining of workers.
- Focusing on developing the capabilities and competitiveness of its own local producers in face of foreign competition helps local enterprises grow and develop their capabilities to compete in the world market.

Limitations of Policy 2a: - Conflict with Structural unemployment

- Efforts to develop our domestic industries and help them move up the value-added production chain, often leads to an increase in structural unemployment.

Policy 2b: Supply side-Retraining/ Skills development our workforce

- In order to prevent the conflict with structural unemployment and improve our labour productivity, the government also rolled out skills future, which enables all eligible Singaporeans to upgrade their

skills by giving them a \$500 grant to attend accredited skills related courses. This is especially important for Singapore, given that labour is practically our only natural resource available.

Policy 2a and 2b: Effectiveness

- These schemes help increase the productivity of the firms and help lower their per unit cost of production. This will then increase the production capacity of Singapore in the long run, as well as lower general price level of the economy as LRAS increases.
- These will then help us improve our global, as well as making our economy more attractive to FDIs.
- Therefore, supply side policies are key to Singapore's global competitiveness and attainment of its macroeconomic goals. In particular, in the long run, to ensure we can continue to sustain our competitiveness through the encouragement of investments.

Limitations of Policy 2a and 2b: Supply side policies

- The impact of most Supply side policies are only seen the long run. Hence, they will not be able to improve Singapore's global competitiveness in the short run.
- Also opportunity cost is incurred.

Due to limitations of Policy 1 and 2, also need FTAs to help boost export competitiveness

- The Singapore government has in recent times embarked on a policy of forging FTAs with many countries.
- The lack of trade barriers has hence helped boost our export competitiveness due to less taxes on our exports leading to relatively lower prices.
- Adopting a free trade policy without any import restrictions also enables us to avoid retaliation from other countries which will hurt Singapore's exports.

Use of FTAs to boost FDIs

- In addition, FTAs go beyond trade. They also help boost FDIs as there is more interconnected investments between countries. They are designed to support SG's business community in moving up the value-added ladder and knowledge chain and to achieve global competitiveness.

Anti-Thesis 2- Limitations of FTAs

- With Free Trade policy, Singapore firms will face increased competition; Singapore's FTA partners will also enter Singapore more easily than before. Service suppliers are more likely to feel the impact of foreign competition.

Evaluative Conclusion

- Being a small and open economy with a small domestic market and a lack of resources, Singapore is highly dependent on both exports and imports to drive its economic growth. With a small domestic market and our dependence on external demand and FDIs, it is crucial for the government to have sound policies to maintain our global competitiveness.
- In face of limitations from the policies adopted, it is thus crucial for Singapore government to use a mixture of long and short term policies, that target both increasing AD and AS to complement one another and help us overcome the potential conflicts and sustain the growth of our economy into the long term.

Marks Scheme

Levels	Descriptors
High L3 18 - 20	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> ➤ EXCELLENT breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of relevance and significance in answering the question. ➤ EXCELLENT depth in economic analysis that reflects the following in ALL explanations. <ul style="list-style-type: none"> ✓ Accurate use of economic concepts, clear elaboration and precise use of economic terminologies, language and phrasing.

	<p>The answer should also be supported by:</p> <ul style="list-style-type: none"> ✓ Well-labelled and well-referred to diagram(s) / tool(s) of analysis drawn with precision (where appropriate). ✓ Relevant examples and accurate use of facts. ✓ Logical structure
Low L3 15 - 17	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> ➤ At least VERY GOOD breadth that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. MOST points chosen should be of relevance and significance in answering the question. ➤ At least VERY GOOD depth in economic analysis that reflects the following in MOST explanations. <ul style="list-style-type: none"> ✓ Accurate use of economic concepts, clear elaboration, and precise use of economic terminologies, language and phrasing. <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> ➤ Well-labelled and well-referred to diagram(s) / tool(s) of analysis drawn with precision (where appropriate). ➤ Relevant example(s) and accurate use of facts. ➤ Logical structure.
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	<ul style="list-style-type: none"> ✓ Example(s). ✓ Logical structure.
Low L2 5 - 8	<p>For an answer that demonstrates knowledge but lacks understanding, application and analysis:</p> <ul style="list-style-type: none"> ➢ INSUFFICIENT breadth that considers the following economic concept(s). Point(s) chosen may be of relevance but may not be of significance in answering the question. ➢ INSUFFICIENT depth in economic analysis that may reflect the following: <ul style="list-style-type: none"> ✓ Lack of accuracy in the use of economic concepts, lack of clarity in elaboration, and lack of precision in the use of economic terminologies, language and phrasing.
Low L1 1 - 4	<ul style="list-style-type: none"> ➢ Demonstrates POOR breadth and POOR economic analysis. ➢ Is irrelevant in analysis but may contain an introduction that addresses the question or contains no economic analysis but may contain a few statements that are relevant to the concepts required to answer the question. ➢ Contains fundamental conceptual errors in analysis.
Levels	Descriptors
E3 4 - 5	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> ➢ A synthesis of earlier economic arguments to arrive at relevant judgements/decisions (i.e. answer the question). ➢ Well-explained criteria-based evaluative comments supported by accurate and clear analysis to provide fairness in views. ➢ A good summative conclusion.
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NANYANG JUNIOR COLLEGE

2018 JC2 Preliminary Exam H2 ECONOMICS

Paper No: 9757/01

10th September 2018
Monday

Time : 1400 – 1615 hrs
Duration : 2 hours 15 mins

READ THESE INSTRUCTIONS FIRST

Do not flip the pages of this paper until you are told to do so.

Write your name, class and name of your economics tutor in the space provided on the writing paper.

Answer **all** questions. The number of marks is given in the brackets at the end of each question. Write your answers on the writing paper provided. If you use more than one sheet of paper, fasten the sheets together.

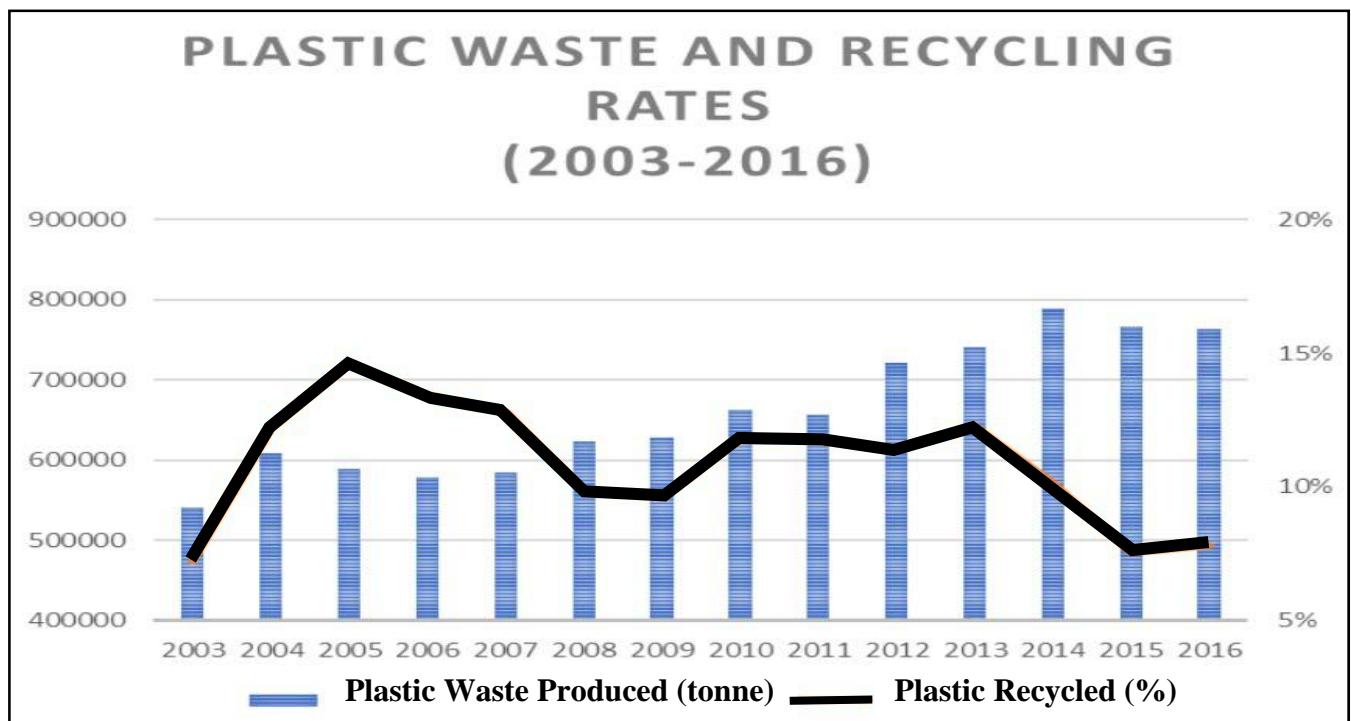
You are advised to spend several minutes reading through the data and questions before you begin writing your answers.

There are 8 printed pages including this cover page

Answer all questions

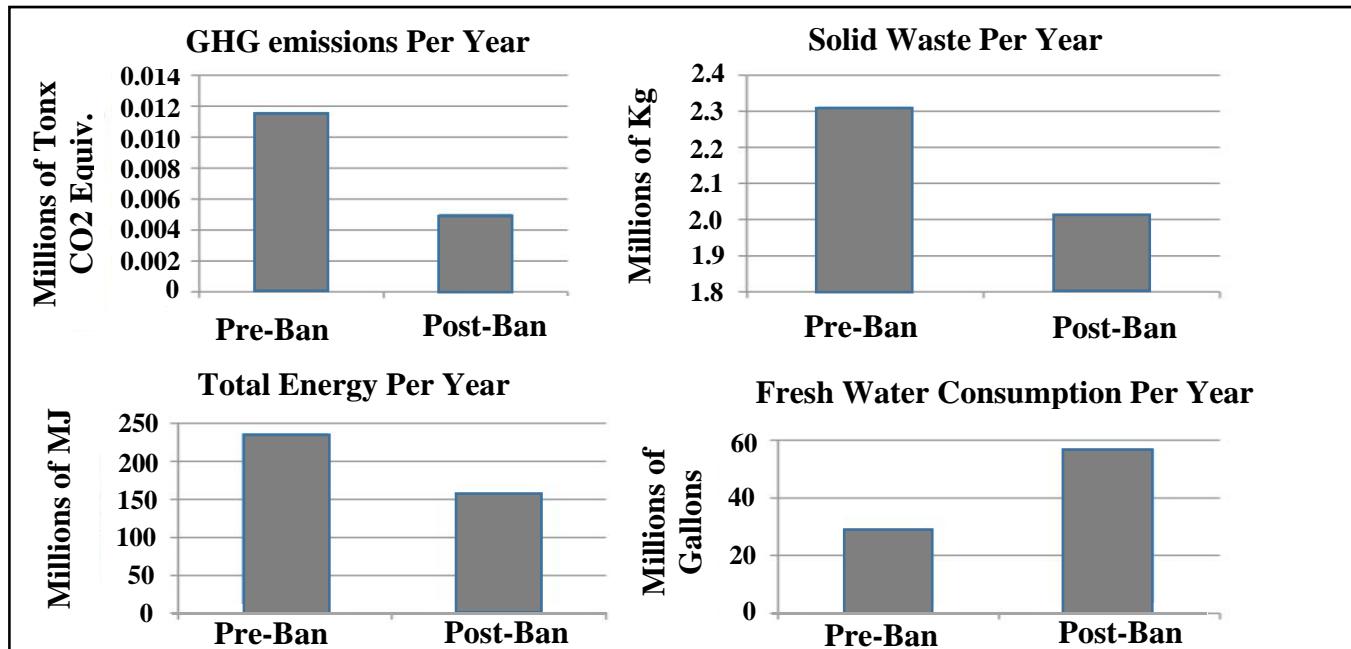
Question 1 Solutions to Tackle Plastic Bag Waste

Figure 1: Plastic Waste and Recycling Rates in Singapore



Source: National Environmental Agency (n.d.). *Waste Statistics and Overall Recycling*

Figure 2: Change in Environmental Impacts of Pre- and Post-Ban Bag-Use in San Diego



Footnote: GHG – Greenhouse gas; MJ – Megajoule; Fresh Water consumption due to paper bag production and washing of reusable bags

Source: Center for Sustainable Energy, Plastic Bag Bans: Analysis of Economic and Environmental impacts, 23 October, 2013

Extract 1: A War the World Must Win

Kathmandu alone uses around 4,700,000 to 4,800,000 plastic bags daily. In Nepal, 16 per cent of urban waste is comprised of plastic, which is 2.7 tons of daily plastic garbage production.

Besides the sheer quantity of plastic waste being produced, one of the major problems with plastic is its resistance to degradation. A conservative estimate puts the average time for one single plastic bag to completely biodegrade at 500 years. This means that not only most of the plastic we use during our lives will outlive us, but that our plastic footprint also will affect the generations to come.

The Hindu Kush Himalaya covering the connected mountains of eight countries — Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal and Pakistan — are the source of ten great rivers that provide drinking water, irrigation, hydropower and life, and eventually reach the oceans. The flow of water from the Himalayas to the oceans also carries plastics and solid waste, posing a threat to both ecosystems and people in the mountains, plains and seas. In Nepal, plastic waste is well known for clogging the rivers and streams in the mountains and hills, resulting in flash floods.

Source: A War the World Must Win, The Statesman, 3 July 2018

Extract 2: England's plastic bag usage drops 85% since 5p charge introduced

The number of single-use plastic bags used by shoppers in England has plummeted by more than 85% after the introduction of a 5p charge last October, early figures suggest.

More than 7bn bags were handed out by seven main supermarkets in the year before the charge, but this figure plummeted to slightly more than 500m in the first six months after the charge was introduced, the Department for Environment, Food and Rural Affairs (Defra) said. This shows that plastic bag consumption can be price-sensitive to UK consumers.

Retailers with 250 or more full-time equivalent employees have to charge a minimum of 5p for the bags they provide for shopping in stores and for deliveries, but smaller shops and paper bags are not included. There are also exemptions for some goods, such as raw meat and fish, prescription medicines, seeds and flowers and live fish.

Source: Adapted from England's plastic bag usage drops 85% since 5p charge introduced, The Guardian, 30 July, 2016

Extract 3: Designing a Solution to Plastic Bag Waste that Fits

Plastic bags are given out freely with purchases at supermarkets. Approximately 3 billion plastic bags were used in Singapore in 2011, resulting in an average of 1.6 plastic bags used per person on a daily basis. This high annual usage of plastic bags has been cause of much concern from environmentalists and concerned members of the public alike.

Several countries and cities around the world have already introduced legal measures such as plastic bag levies and taxes, to put an end to the practice of shoppers receiving an unlimited amount of plastic bags at no charge. These financial disincentives take two main forms – taxes that are enforced on plastic bag manufacturers or importers for the plastic bags sold by them and levies that are imposed on consumers at the point of sale. On a worldwide scale, more than 75 countries have taken steps to reduce the consumption of single-use plastic bags. About one-

third of these have instituted bans, approximately one-third have instituted fees. A tax on plastic bags would be the most direct and effective way of correcting this market failure.

On the other hand, environmental advocates, while encouraging the recycling of plastic bags, propose several alternatives to traditional plastic bags, including biodegradable or compostable bags for single-use purposes, paper bags for single-use purposes, reusable bags made from low density polyethylene (LDPE) or non-woven polypropylene, and cotton tote bags. However, in the real world, recycling carries costs that are often overlooked. For example, recycling paper could cause more severe water pollution or soil contamination as the removal of ink from paper requires harsh chemical treatment, with the resultant sludge needing to be disposed of somehow. The process of recycling could also be more energy intensive than the extraction of raw materials.

Source: Multiple sources

Questions

- (a) Describe the trend of plastic waste production and plastic recycled from 2010 to 2016. [2]
- (b) Explain the probable price elasticity of demand for plastic bags in the UK. [3]
- (c) (i) Explain the source of market failure for the plastic bag market mentioned in Extract 1. [2]
(ii) With the use of a diagram, illustrate how free provision of plastic bags worsens the issue of market failure identified above. [5]
- (d) With reference to Extract 3 and any other data, comment on the effectiveness of the solutions proposed by the environmental advocates to reduce consumption of plastic bags in Singapore. [8]
- (e) Assess the factors the Singapore government should consider when deciding between imposing a ban and a tax on plastic bags. [10]

[Total : 30]

Question 2 UK and EU - A Tale of Two Economies

Extract 4: The Evolution of the Eurozone

The common currency was an outgrowth of efforts that began in the mid-20th century, as Europe reeled from the carnage and disruption of two world wars. In 1957, this vision came closer to being a reality with the signing of the Rome treaty, which established the European Economic Community (EEC), comprising of Belgium, France, Italy, Luxembourg, the Netherlands and West Germany. Step by step, restrictions were eased on work, travel and trade between the expanding list of EEC countries.

The European Union (EU) was established in 1993 and created much of its economic structure and institutions – including setting in motion the process of adopting a common currency, the Euro.

Advocates of the Eurozone rightly argue that it was not just an economic project that sought to improve standards of living by increasing the efficiency of resource allocation, pursuing the principles of comparative advantage, enhancing competition, taking advantage of economies of scale and strengthening economic stability. More importantly, it was a political project; it was supposed to enhance the political integration of Europe, bringing the people and countries closer together and ensuring peaceful coexistence.

Source: *The Problem with Europe is the Euro*, *The Guardian*, August 2016

Extract 5: Brexit

Countries band together to promote trade, defend human rights, protect the environment and repel threats. They sign treaties and join international groups, and each time they do, they give up a bit of independence. That happened in a big way with the creation of the European Union (EU), a free-trade zone and global political force forged from different European countries.

Freedom of movement for labour is one of the key principles of the EU. However, this ease of movement has been attacked in the UK, which had an unexpectedly high level of migration from several old Soviet bloc states after they joined the EU. Findings from the British Social Attitudes (BSA) survey revealed that Brexit was the result of widespread concern over the numbers of people coming to the UK that strained public services—millions of whom have done so under the EU's freedom of movement rules in recent years.

As a result, the people of the UK, in a June 2016 referendum, shocked the world by voting to leave the bloc they'd joined in 1973. The way many Britons saw it, the EU was expensive, out of touch and a source of uncontrolled immigration. They chose what's become known as Brexit.

Adapted from: *Bloomberg*, December 2017

Extract 6: The Pros and Cons of Leaving the EU

The Eurozone economy is growing twice as fast as the UK's. The Eurozone economy's gross domestic product grew 0.6 percent in real terms in the second quarter of the year – versus 0.3 percent for the UK contrary to appearances, this is good news for Britain. But it also illustrates what the British economy stands to lose from Brexit.

Some see the contrasting performances of the economies on either side of the Channel — highlighted by the Bank of England cutting its UK growth forecast— as a sign that worries about Brexit are beginning to weigh on British consumers and businesses.

The impact of Brexit is manifold. The pound slumped to the lowest level in 30 years on Friday, tumbling as much as 13 percent, as investors took flight at Britain's shock decision to leave the EU. The weakness of the pound is fuelling domestic inflation, constraining household spending and hurting European exports to the country.

Furthermore, uncertainty about the terms of a Brexit deal between London and the EU is putting a brake on investment, as "businesses are delaying crucial decisions," said Bert Colijn, senior economist at ING Bank in Amsterdam.

Outside the EU, the UK would lose trade with its neighbours (17 percent of EU exports go to the UK, whereas the EU absorbs 44 percent of UK exports) and reduce its negotiating power with the rest of the world.

It seems the UK can't look anywhere else for hope. The Bank of England cut its growth forecast for this year from 1.9 percent to 1.7 percent, after a similar move by the International Monetary Fund last week. And there are few other available means to boost growth in the short term.

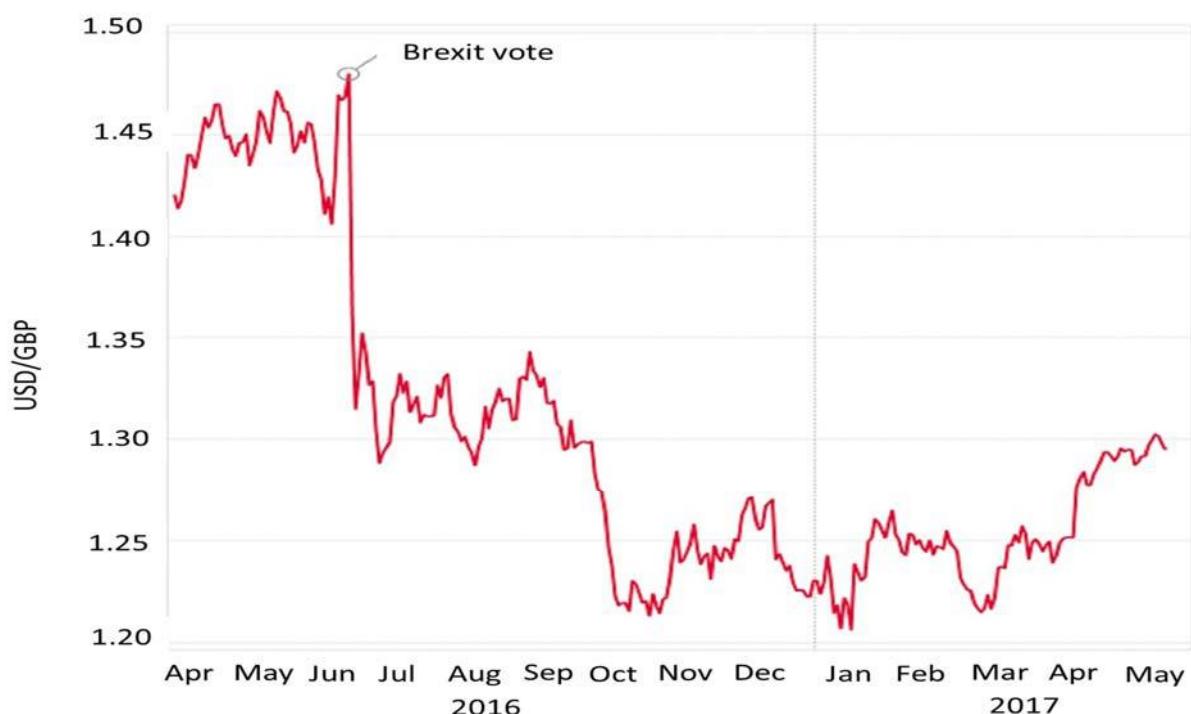
Monetary policy has run its course after a massive easing last year in the wake of the Brexit referendum. "It's easy to forget that the UK economy has relied massively on monetary stimulus in the last year, but that is coming to an end," Moëc noted.

Nonetheless, Brexiters said UK's departure from the EU could more than compensate for those disadvantages because it would be free to establish its own trade agreements. Furthermore, the UK will no longer be bound by the Maastricht Treaty¹ and is now able to use fiscal policy tools with greater flexibility. Currently, the UK's budget deficit is forecast at 3 percent of GDP, unchanged from last year.

Adapted from: *Politico*, August 2017

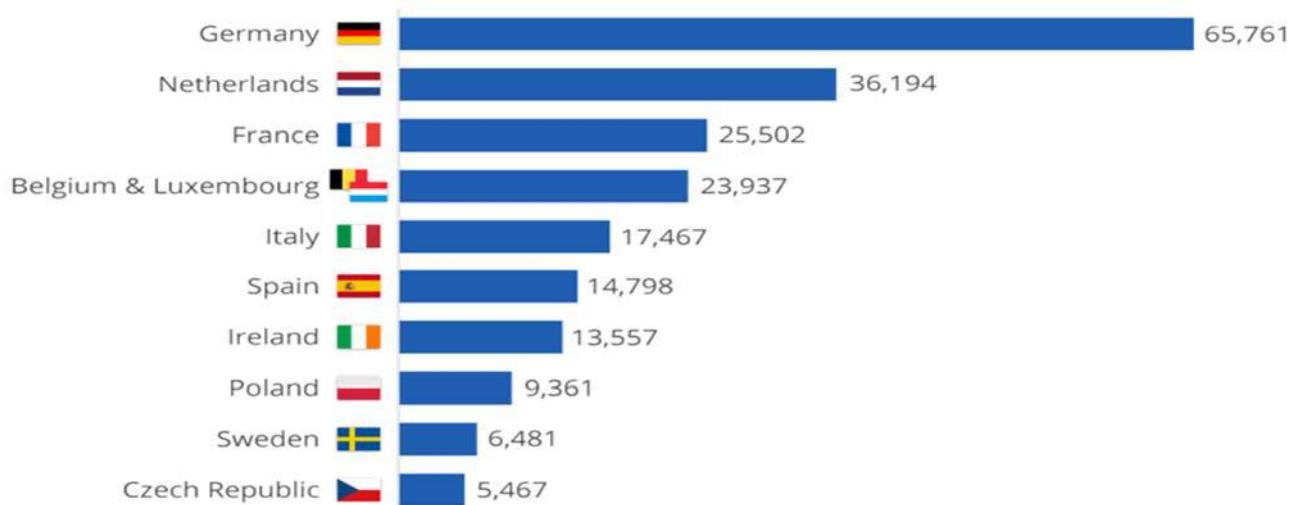
¹Article 126 of the Maastricht Treaty defines two criteria which Member States' governments should comply. These are: a deficit to Gross Domestic Product (GDP) ratio of 3% and a debt to GDP ratio of 60%.

Figure 3: USD per unit of Great British Pound (GBP)



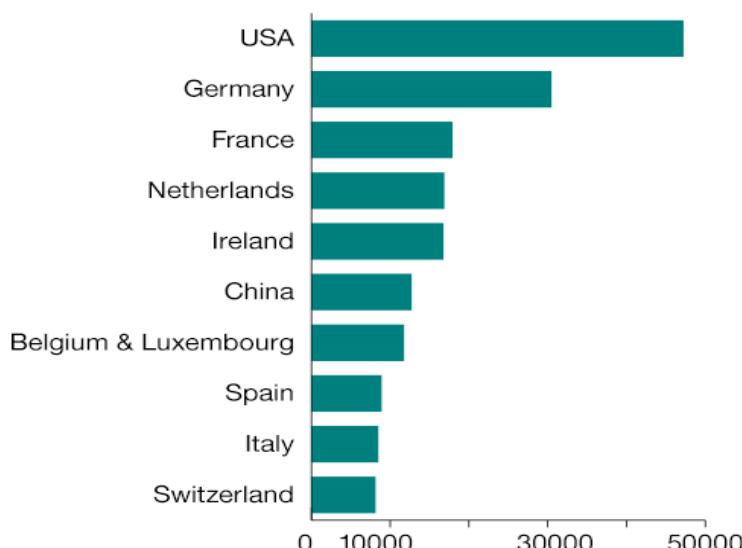
Source: *Macrobond, The Independent*

Figure 4: Import Sources of the UK in 2016, by import value (in million GBP)



Source: *Office for National Statistics*

Figure 5: Export Destinations of the UK in 2015, by export value (in million GBP)



Source: *Pink Book, Office for National Statistics*

Questions

- (a) (i) How does the value of Great British Pound (GBP) in April 2016 compare to its value in May 2017? [1]
- (ii) With the aid of a diagram, explain one possible reason for the trend above. [3]
- (b) With reference to extract 4, use PPC analysis to illustrate how the following will lead to an improvement in material standard of living:
 - (i) Pursuing the principle of comparative advantage [3]
 - (ii) Enhancing competition [3]
- (c) Explain why the weakness of Great British Pound (GBP) will hurt European exports to the UK. [2]
- (d) With reference to the data, discuss how Brexit is likely to impact the UK economy. [8]
- (e) In the light of the issues mentioned in Extract 6, discuss the policy options available to the UK government to achieve its macroeconomic goals. [10]

[Total: 30]

Copyright Acknowledgements:

Question 1 Extract 3

- © Designing a solution that fits, The Straits Times, 11 Nov 2017
- © An Analysis of the Impact of Single-Use Plastic Bags, New York State Plastic Bag Task Force Report, 13 January, 2018
- © Identifying and mitigating the wastage an inefficient use of plastic bags in Singapore, Singapore Environment Council, 2013
- © Recycling can be too much of the of a good thing, The Straits Times, 17 March, 2018



NANYANG JUNIOR COLLEGE

2018 JC2 Preliminary Exam H2 ECONOMICS

Paper No: 9757/02

14th September 2018
Friday

Time : 1430 – 1645 hrs
Duration : 2 hours 15 mins

READ THESE INSTRUCTIONS FIRST

Do not flip the page of this paper until you are told to do so.

Write your name, class and name of your economics tutor in the space provided on the writing paper.

Answer **three** questions in total, of which one must be from Section A, one from Section B and one from either Section A or Section B.

The number of marks is given in the brackets at the end of each question or part question. Write your answers on the writing papers provided. At the end of the examination, fasten all your work securely together.

There are 2 printed pages including this cover page

Answer **three** questions in total.

Section A

One or two of your three chosen questions must be from this section.

- 1 Analysts are forecasting a sharp rise in oil prices by the end of this year as a result of a reduction in oil flows in Iraq due to fighting between government forces and Kurdish militant groups. In addition, oil production is still being withheld as part of a pact between the Organization of the Petroleum Exporting Countries (OPEC) and non-OPEC producers to tighten the market. In the main growth areas of Asia, consumption remains strong especially in China and India, the world's top importers.

Adapted from <https://www.reuters.com/article/oil-prices>, 23rd Oct 2017

- (a) Explain how the above-mentioned factors might have caused a sharp rise in oil prices. [10]
(b) Discuss whether a subsidy or a maximum price control is more effective in increasing the affordability for petrol due to the rise in oil prices. [15]
- 2 The merger of the UK's second- and third-largest supermarket chains (Asda-Sainsbury) could hand them control of about 30% of the grocery sales, a similar level to Tesco, meaning two businesses would account for 60% of the market in future.

Adapted from The Guardian, 3rd May 2018

- Discuss whether the UK government should be concerned with the merger of these supermarket chains. [25]
- 3 (a) Explain how consumers and firms make rational decisions in the pursuit of self-interest. [10]
(b) Discuss whether rational decision-making by consumers, firms and government will always lead to an efficient allocation of resources. [15]

Section B

One or two of your three chosen questions must be from this section.

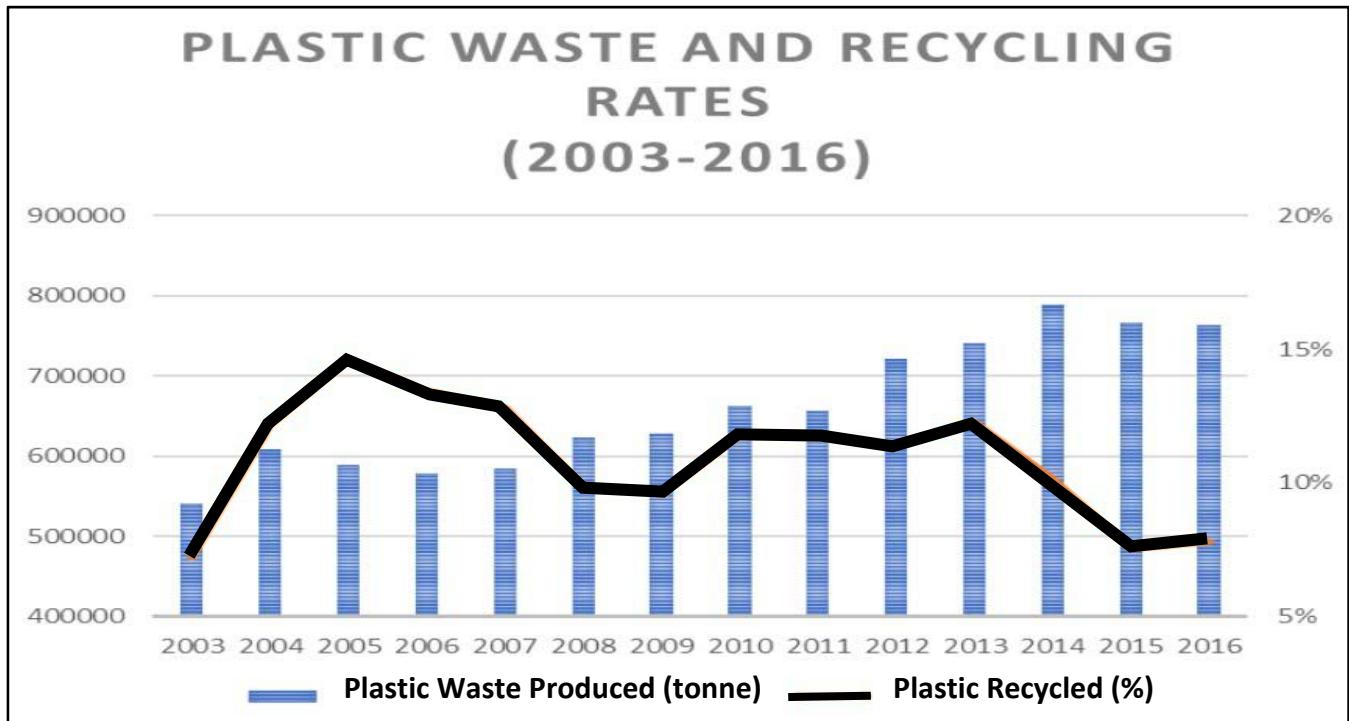
- 4 (a) Explain the key determinants of sustained economic growth. [10]
(b) Assess the extent to which the size and openness of an economy affects the choice of macroeconomic policies a government adopts to achieve sustained growth. [15]
- 5 To help Singapore achieve her productivity target of 2 to 3% each year until 2020, the Singapore government has focused on strengthening human capital, boosting innovation through tax incentives and building state-of-the-art digital infrastructure. There has also been a tightening of foreign worker policies in a bid to support innovation and automation especially among small and medium enterprises.

- Discuss whether possible trade-offs in economic aims may arise as the government implements these strategies to raise productivity in Singapore. [25]
- 6 Singapore has dropped a spot to become the world's third most competitive economy, according to a report by the World Economic Forum. But while Singapore posted an "excellent performance" across the board, it still lags behind the world's most prolific innovation powerhouses and cost pressures remain a concern.

- (a) Explain why the comparative advantage of a country may change over time. [10]
(b) Discuss the effectiveness of the various economic policies the Singapore government could adopt to maintain her competitiveness in the global economy. [15]

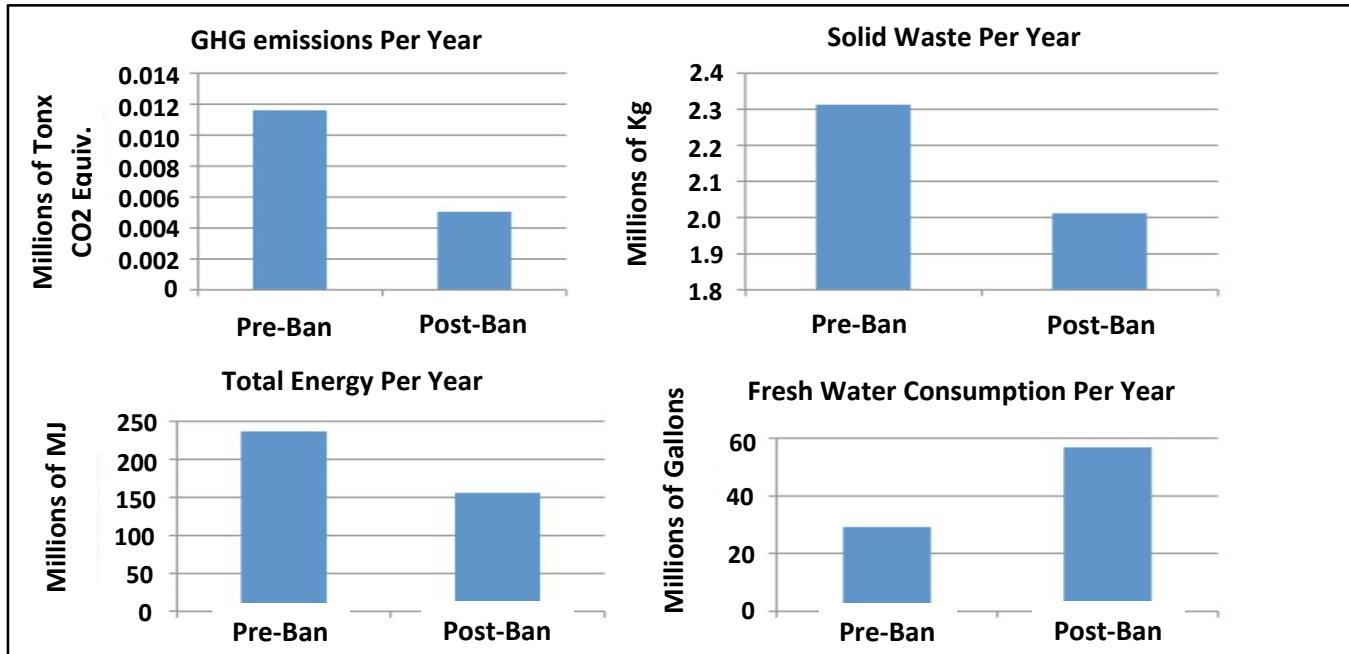
*** The End ***

Figure 1: Plastic Waste and Recycling Rates in Singapore



Source: National Environmental Agency (n.d.). *Waste Statistics and Overall Recycling*

Figure 2: Change in environmental impacts of Pre- and Post-Ban Bag-use in San Diego



Footnote: GHG – Greenhouse gas; MJ – Megajoule; Fresh Water consumption due to paper bag production and washing of reusable bags

Source: Center for Sustainable Energy, Plastic Bag Bans: Analysis of Economic and Environmental impacts, 23 October, 2013

Extract 1: A War the World Must Win

Kathmandu alone uses around 4,700,000 to 4,800,000 plastic bags daily. In Nepal, 16 per cent of urban waste is comprised of plastic, which is 2.7 tons of daily plastic garbage production.

Besides the sheer quantity of plastic waste being produced, one of the major problems with plastic is its resistance to degradation. A conservative estimate puts the average time for one single plastic bag to completely biodegrade at 500 years. This means that not only most of the plastic we use during our lives will outlive us, but that our plastic footprint also will affect the generations to come.

The Hindu Kush Himalaya covering the connected mountains of eight countries — Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal and Pakistan — are the source of ten great rivers that provide drinking water, irrigation, hydropower and life, and eventually reach the oceans. The flow of water from the Himalayas to the oceans also carries plastics and solid waste, posing a threat to both ecosystems and people in the mountains, plains and seas. In Nepal, plastic waste is well known for clogging the rivers and streams in the mountains and hills, resulting in flash floods.

Source: A War the World Must Win, The Statesman, 3 July 2018

Extract 2: England's plastic bag usage drops 85% since 5p charge introduced

The number of single-use plastic bags used by shoppers in England has plummeted by more than 85% after the introduction of a 5p charge last October, early figures suggest.

More than 7bn bags were handed out by seven main supermarkets in the year before the charge, but this figure plummeted to slightly more than 500m in the first six months after the charge was introduced, the Department for Environment, Food and Rural Affairs (Defra) said. This shows that plastic bag consumption can be price-sensitive to UK consumers.

Retailers with 250 or more full-time equivalent employees have to charge a minimum of 5p for the bags they provide for shopping in stores and for deliveries, but smaller shops and paper bags are not included. There are also exemptions for some goods, such as raw meat and fish, prescription medicines, seeds and flowers and live fish.

Source: Adapted from England's plastic bag usage drops 85% since 5p charge introduced, The Guardian, 30 July, 2016

Extract 3: Designing a solution to plastic bag waste that fits

Plastic bags are given out freely with purchases at supermarkets. Approximately 3 billion plastic bags were used in Singapore in 2011, resulting in an average of 1.6 plastic bags used per person on a daily basis. This high annual usage of plastic bags has been cause of much concern from environmentalists and concerned members of the public alike.

Several countries and cities around the world have already introduced legal measures such as plastic bag levies and taxes, to put an end to the practice of shoppers receiving an unlimited

amount of plastic bags at no charge. These financial disincentives take two main forms – taxes that are enforced on plastic bag manufacturers or importers for the plastic bags sold by them and levies that are imposed on consumers at the point of sale. On a worldwide scale, more than 75 countries have taken steps to reduce the consumption of single-use plastic bags. About one-third of these have instituted bans, approximately one-third have instituted fees. A tax on plastic bags would be the most direct and effective way of correcting this market failure.

On the other hand, environmental advocates, while encouraging the recycling of plastic bags, propose several alternatives to traditional plastic bags, including biodegradable or compostable bags for single-use purposes, paper bags for single-use purposes, reusable bags made from low density polyethylene (LDPE) or non-woven polypropylene, and cotton tote bags. However, in the real world, recycling carries costs that are often overlooked. For example, recycling paper could cause more severe water pollution or soil contamination as the removal of ink from paper requires harsh chemical treatment, with the resultant sludge needing to be disposed of somehow. The process of recycling could also be more energy intensive than the extraction of raw materials.

Source: Multiple sources

Questions

- (a) Describe the trend of plastic waste production and plastic recycled from 2010 to 2016. [2]
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- Extract 3 © Designing a solution that fits, The Straits Times, 11 Nov 2017
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© Task Force Report, 13 January, 2018
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© Recycling can be too much of the of a good thing, The Straits Times, 17 March, 2018

Suggested answers:

- (a) **Describe the trend of plastic waste production and plastic recycled from 2010 to 2016.** [2]

Plastic waste production has been generally increasing from 2010 to 2016 [1m] and the rate of plastic recycled has been generally decreasing from 11% to less than 5% [1m].

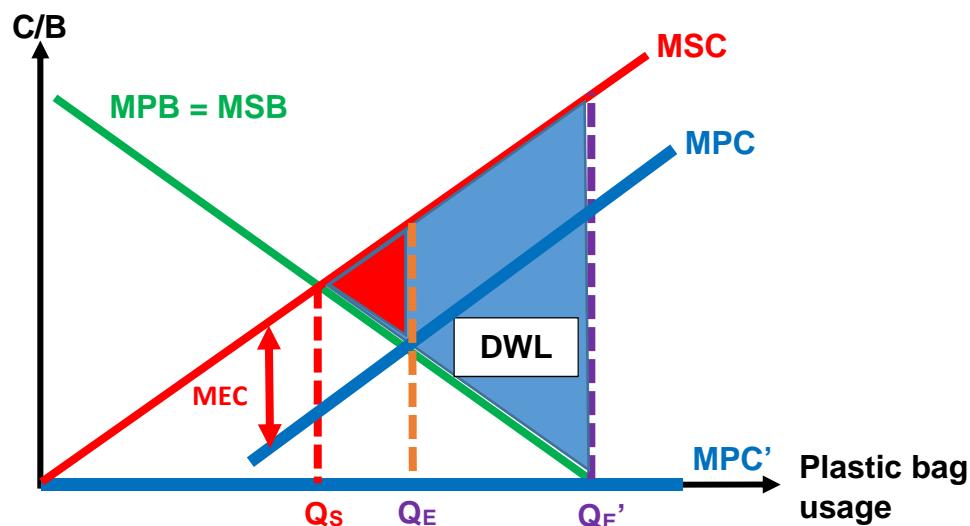
- (b) **Explain the probable price elasticity of demand for plastic bags in the UK.** [3]

- **Definition:** PED measures the responsiveness of the quantity demanded to a change in the price of the good, ceteris paribus. [1m]
- **Identification:** PED of plastic bags in the UK is **price elastic**. [1m]
- **Justification:** As mentioned in Extract 2, UK consumers are price sensitive (or the significant fall in 85% of plastic usage due to the 5p charge). This shows that UK consumers are very responsive to any change in plastic bag price. Hence, an increase in price of plastic bags will lead to a more than proportionate fall in quantity demanded of plastic bags in the UK. [1m]

- (c) (i) **Explain the source of market failure for the plastic bag market mentioned in Extract 1.** [2]

- **Identify source of MF: Negative externality due to consumption.** [1m]
- **Evidence with analysis:** From Extract 1, the damage to irrigation system and dam; contamination of drinking water, causing farmers living near the damaged dam to lose their livelihood and people who consumed the contaminated water to suffer from deteriorating health and incurring medical costs. [1m]

- (ii) **With the use of a diagram, illustrate how free provision of plastic bags worsens the issue of market failure identified above.** [5]



[1m]

- MPB: Convenience of using the plastic bags to carry goods and can be used for other purposes, such as trash bags.
- MPC: Price of purchasing the plastic bag (in a free market, there should be a price for plastic bag) and the opportunity costs of using plastic bags
- MEC: Identified in (c)(i) [1m]
- MSC = MPC + MEC
- Correct identification of Q_E and Q_s . [1m]
- Provide condition of market output that maximise net private benefit: $MPB = MPC @ Q_E$
- Provide condition of socially optimal output that maximise net social benefit: $MSC = MSB @ Q_s$ with the DWL shaded in red.[1m]
- When plastic bags are provided for free, $MPC = 0$ (assuming no opportunity cost), market output @ Q_E' with the DWL shaded in blue, which is greater than before. [1m]

(d) With reference to Extract 3 and any other data, comment on the effectiveness of the solutions proposed by the environmental advocates to reduce consumption of plastic bags in Singapore. [8]

- **Solutions proposed by environmentalist** (Ext 3): Encourage recycling of plastic bags and use of alternative carrier such as biodegradable or compostable bags for single-use purposes, paper bags for single-use purposes, reusable bags made from low density polyethylene (LDPE) or non-woven polypropylene, and cotton tote bags
- **Objective:** Provide environmentally friendly solution to encourage the public to reuse the plastic bags or/and replace the use of plastic bags with compostable/paper bags/cotton tote bags.
- **How it works:** This will reduce the demand (fall in MPB) for plastic bags due to the availability of alternative carrier bags to substitute plastic bags, causing consumers to switch to these alternatives, effectively reducing the market output to Q_s .
- **However...**
- For recycling ('reused') of plastic bags, figure 1 shows declining recycling rate in Singapore. Possibly due to poor public education on recycling and weak government effort to encourage recycling.
- For paper bags for single-used, figure 2 shows the increase in fresh water consumption due to paper bag production and extract 3 mentions the harm to environment when these paper bags are recycled.
- For reusable bags made from LDPE, and cotton tote bags, figure 2 shows the increase in water consumption due to the washing of reusable bags.
- Given that water is a scarce resource, especially in Singapore, the increase in water consumption might pose a greater challenge to the Singapore government than the negative externality caused by plastic bags.
- Effort to encourage recycling should step up to minimise impact of plastic bag usage on the environment.

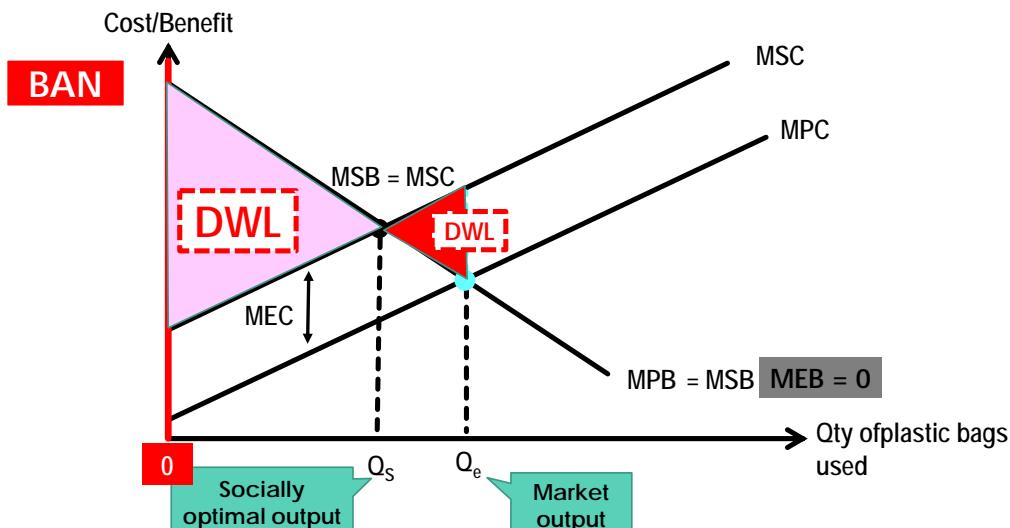
Level 1	<ul style="list-style-type: none"> Correctly identified the proposed solutions in Extract 3 Able to provide some descriptions of how the solutions are able to reduce the usage of plastic bags 	1 – 3m
Level 2	<ul style="list-style-type: none"> Use of economic framework (Benefit-Cost) to illustrate how any 2 solutions can reduce the benefits of plastic bag usage. [max 4m) Use of relevant data to evaluate the limitations of the solutions 	4 – 6m
E	<p>Stand: With the given data, it is evident that the proposed solutions will not work very well in Singapore. [1m]</p> <p>Justification should take into account of the data, Singapore characteristics and consumers behaviour. [1m]</p>	1 – 2m

- (e) Assess the factors the Singapore government should consider when deciding between imposing a ban and a tax on plastic bags.

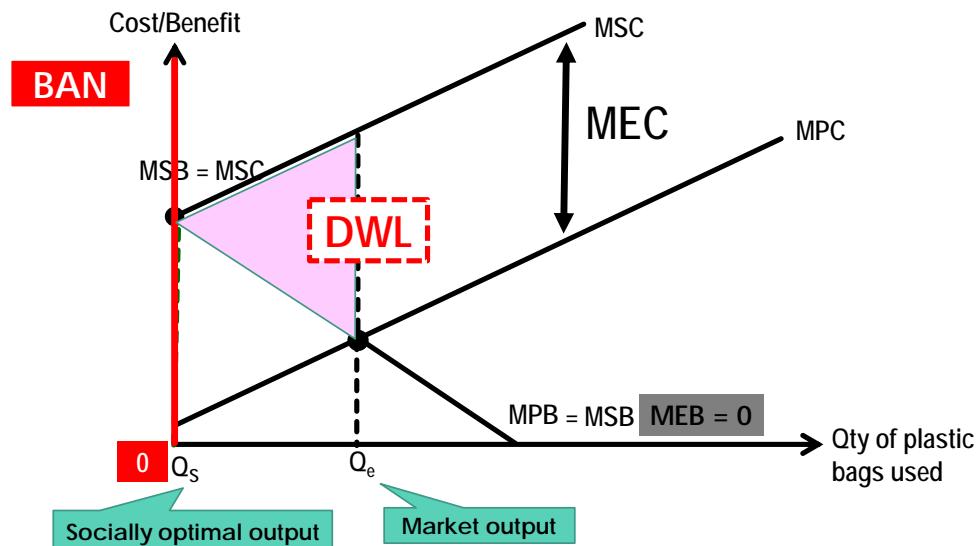
[10]

Synopsis: Students are expected to adopt the **decision making model** to answer this question. As such, the objective of the Singapore government in relation to the issue of over-use of plastic bags must first be established. The factors to consider in ascertaining which policy works better in Singapore should take into account of the costs and benefits of each policy, constraints faced by the government and unintended consequences of the respective policies, all in Singapore context.

- Objective:** reduce plastic bag usage
- Cost-Benefit analysis:** [Key argument]
 - Students are expected to weigh the costs and benefits of a ban and taxation.



- Indirect tax that is equivalent to the MEC will increase the MPC of consumers in the usage of plastic bags, reducing the market level of consumption from Q_e to Q_s .
- In this case, the use of ban will create a larger deadweight loss on society and taxation (= MEC) might be a better solution to reduce usage of plastic bags to Q_s and the tax revenue collected could be diverted to public education on recycling.



- In this case, the use of a ban might be a better solution due to the large MEC involved and the benefit of its implementation will most likely outweigh the administrative costs involved. The use of taxation in this case would be dependent on the government's ability to accurately measure the MEC, and would most probably involve some trial and error before socially optimal level of plastic bags usage could be achieved.
 - As such, the size of the MEC will determine whether a ban or taxation is a more appropriate measure.
 - In Singapore context, the size of MEC is unlikely to be too large as compared to countries that focus on agricultural productions and are dependent on domestic water sources. As such, given a generally low MEC, taxation might be a better solution for Singapore.
- Constraints:**
- Due to the implementation costs of taxation and ban, government's budget in the implementation of both measures must be considered. For governments with budget constraint, the policy with a relatively higher costs of implementation will incur significant opportunity costs which might undermine the economic development of an economy. Hence, the policy with a lower implementation costs might be chosen.
 - However, given the accumulated surpluses from the Singapore government, funding for its implementation would not be an issue.

- **Information:**

- The choice of appropriate policy measure and the amount of taxation required to achieve socially optimal outcome is dependent on the MEC. However, MEC is difficult to measure due to the intangible costs involved which make it difficult to monetise the effects on third party. As such, the ability of Singapore government to accurately measure the value of MEC is paramount to her decision in choosing the policy measure or/and amount of taxation to ensure maximum social welfare.
- It is also important to determine the PED of consumers on plastic bags as it would affect the effectiveness of taxation in reducing plastic bag usage. For example, if Singaporeans are not responsive to any price change for plastic bags (inelastic PED – due to habit of using plastic bags when purchasing groceries), the tax imposed will not be effective in reducing plastic bag usage significantly unless the amount of taxation is significantly large. However, if Singaporean consumers are to behave similarly as UK consumers (extract 2), PED for plastic bags will be price elastic. In this case, taxation will be effective to curb consumption of plastic bags.

- **Unintended consequences:**

- Issues of switching to paper bags or reusable bags [refer to (d)]

- **Judgment:**

- The most important factor to consider might be the accuracy of information collected on the monetary value of MEC. If the Singapore government believe that the MEC of plastic bag usage is large, a ban might be an appropriate measure as the benefits of implementation will outweigh any costs involved. However, if the MEC is considered to be low and only refinement to consumers' consumption habit is needed, a tax might suffice. If Singapore government is to implement a tax on plastic bag usage, consumers' PED for plastic bag has to be taken into account to ascertain the amount of taxation required to achieve the socially desired level of plastic bag consumption.

Level 1	<ul style="list-style-type: none"> • Able to demonstrate some knowledge on how a tax and ban can reduce consumption of plastic bags without adequate economic framework (benefit-cost) and utilisation of DM model. • Failed to compare the size of MEC in determining whether a ban or tax is a better solution. 	1 – 4m
Level 2	<ul style="list-style-type: none"> • Use of benefit-cost framework to illustrate how a tax and ban can reduce consumption of plastic bags • Failure to draw diagram(s) to illustrate DWL [max 5m] • Answers to include at least 2 factors. • Reference to case material and comparisons of both measures in the context of Singapore. 	5m 6 - 7m
E1	Stand: Able to arrive at a stand on the most important factor of consideration.	1m
E2	Justify: Tax and ban can be effective in reducing plastic bag usage. However, their difference lies in the degree of government intervention which is dependent on how the Singapore government perceive the extent of MEC of plastic bag usage . As such, the ability to collect accurate information on the MEC involved would be the most important factor to consider in deciding the choice of policy to adopt.	2 – 3m

Question 2: UK and EU: A Tale of Two Economies

Extract 4: The Evolution of the Eurozone

The common currency was an outgrowth of efforts that began in the mid-20th century, as Europe reeled from the carnage and disruption of two world wars. In 1957, this vision came closer to being a reality with the signing of the Rome treaty, which established the European Economic Community (EEC), comprising of Belgium, France, Italy, Luxembourg, the Netherlands and West Germany. Step by step, restrictions were eased on work, travel and trade between the expanding list of EEC countries.

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Source: The Problem with Europe is the Euro, The Guardian, August 2016

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As a result, the people of the UK, in a June 2016 referendum, shocked the world by voting to leave the bloc they'd joined in 1973. The way many Britons saw it, the EU was expensive, out of touch and a source of uncontrolled immigration. They chose what's become known as Brexit.

Adapted from: Bloomberg, December 2017

Extract 6: The Pros and Cons of Leaving the EU

The Eurozone economy is growing twice as fast as the UK's. The Eurozone economy's gross domestic product grew 0.6 percent in real terms in the second quarter of the year — versus 0.3 percent for the UK. Contrary to appearances, this is good news for Britain. But it also illustrates what the British economy stands to lose from Brexit.

Some see the contrasting performances of the economies on either side of the Channel — highlighted by the Bank of England cutting its UK growth forecast — as a sign that worries about Brexit are beginning to weigh on British consumers and businesses.

The impact of Brexit is manifold. The pound slumped to the lowest level in 30 years on Friday, tumbling as much as 13 per cent, as investors took flight at Britain's shock decision to leave the EU. The weakness of the pound is fuelling domestic inflation, constraining household spending and hurting European exports to the country.

Furthermore, uncertainty about the terms of a Brexit deal between London and the EU is putting a brake on investment, as "businesses are delaying crucial decisions," said Bert Colijn, senior economist at ING Bank in Amsterdam.

Outside the EU, the UK would lose trade with its neighbours (17 percent of EU exports go to the UK, whereas the EU absorbs 44 percent of UK exports) and reduce its negotiating power with the rest of the world.

It seems the UK can't look anywhere else for hope. The Bank of England cut its growth forecast for this year from 1.9 percent to 1.7 percent, after a similar move by the International Monetary Fund last week. And there are few other available means to boost growth in the short term.

Monetary policy has run its course after a massive easing last year in the wake of the Brexit referendum. "It's easy to forget that the UK economy has relied massively on monetary stimulus in the last year, but that is coming to an end," Moëc noted.

Nonetheless, Brexiteers said UK's departure from the EU could more than compensate for those disadvantages because it would be free to establish its own trade agreements. Furthermore, the UK will no longer be bound by the Maastricht Treaty¹ and is now able to use fiscal policy tools with greater flexibility. Currently, the UK's budget deficit is forecast at 3 percent of GDP, unchanged from last year.

Adapted from: Politico, August 2017

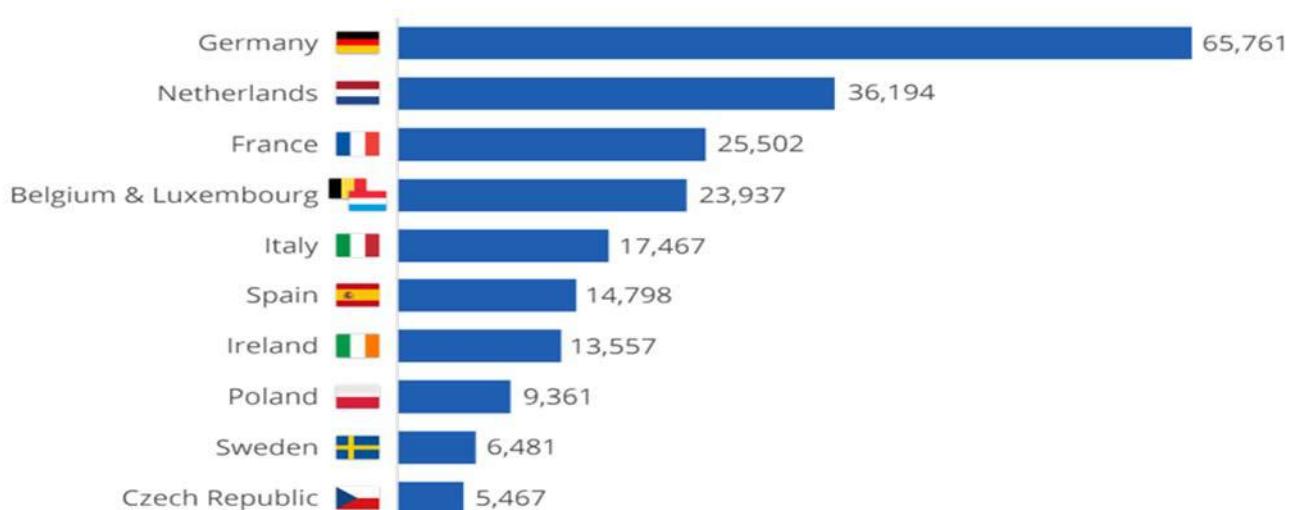
¹Article 126 of the Maastricht Treaty defines two criteria which Member States' governments should comply. These are: a deficit to Gross Domestic Product (GDP) ratio of 3% and a debt to GDP ratio of 60%.

Figure 3: USD per unit of Great British Pound (GBP)



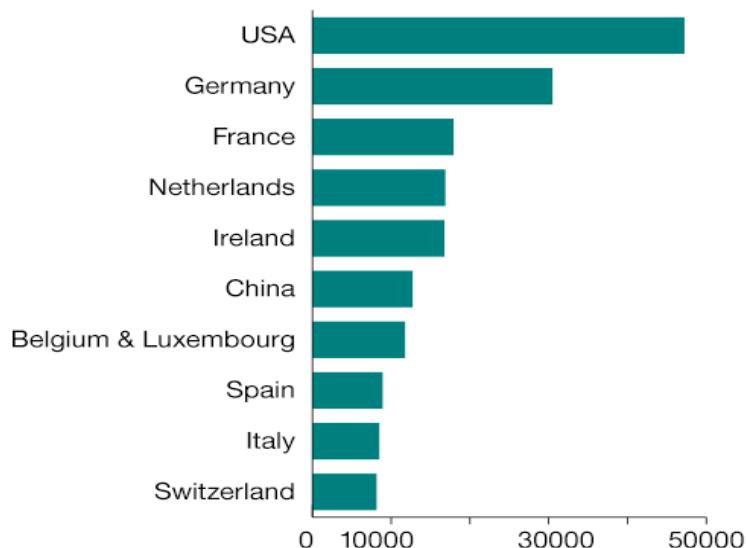
Source: Macrobond, The Independent

Figure 4: Import sources of the UK in 2016, by import value (in million GBP)



Source: Office for National Statistics

Figure 5: Export destinations of the UK in 2015, by export value (in million GBP)



Source: Pink Book, Office for National Statistics

Questions

- (a) (i) How does the value of Great British Pound (GBP) in April 2016 [1] compare to its value in May 2017?
(ii) With the aid of a diagram, explain one possible reason for the trend [3] above.
- (b) With reference to extract 4, use PPC analysis to illustrate how the following will lead to an improvement in material standard of living:
(i) Pursuing the principle of comparative advantage [3]
(ii) Enhancing competition [3]
- (c) Explain why the weakness of Great British Pound (GBP) will hurt [2] European exports to the UK.
- (d) With reference to the data, discuss how Brexit is likely to impact the [8] UK economy.
- (e) In the light of the issues mentioned in Extract 6, discuss the policy [10] options available to the UK government to achieve its macroeconomic goals.

[Total: 30]

Suggested Answers

(a)(i) How does the value of Great British Pound (GBP) in April 2016 compare to its value in May 2017? [1]

- The Great British Pound has depreciated against USD.
- Falling [0]

(a)(ii) With the aid of a diagram, explain one possible reason for the trend above. [3]

Ext 6: "investors took flight at Britain's shock decision to leave the EU." Supply for pound increases due to capital flight from economy due to uncertainty. As such, people lose confidence in the currency and started selling GBP. Hence, this increases the supply of GBP in the foreign exchange market as shown in the diagram from SS₁ to SS₂ and this caused the value of GBP to fall from \$F₁ to \$F₂. [2]

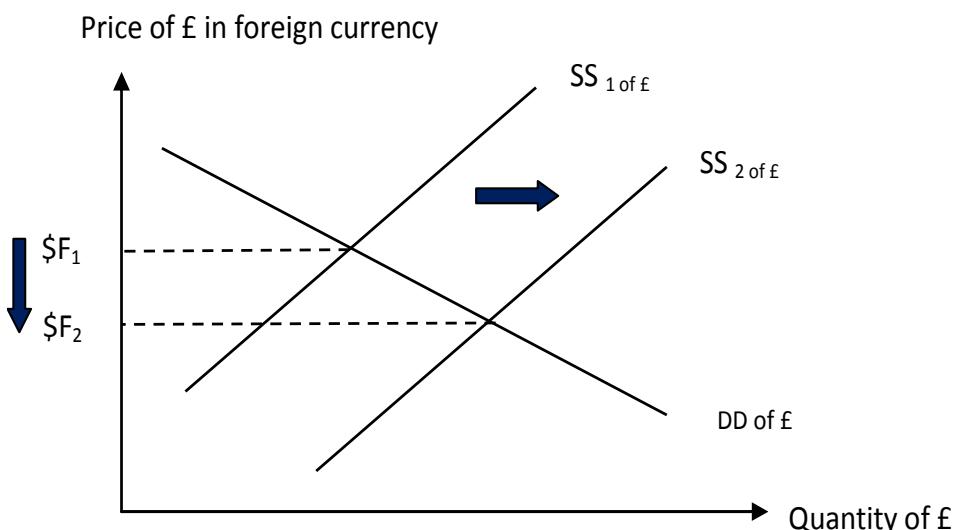


Diagram [1]

- Alternatively, students can also explain that demand for GBP falls due to low confidence in the economy.

(b) With reference to extract 4, use PPC analysis to illustrate how the following will lead to an improvement in material standard of living:

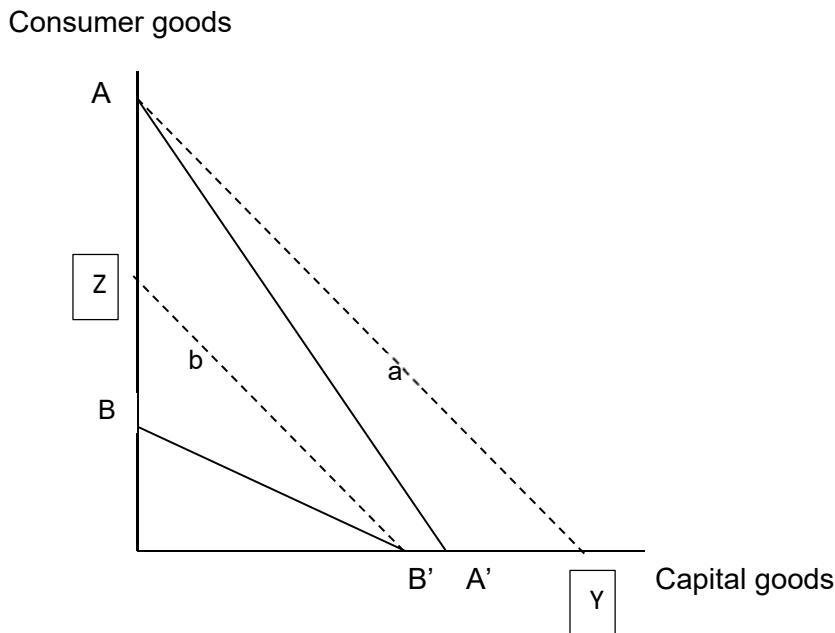
(i) Pursuing the principle of comparative advantage

[3]

Definition [1]

The Principle of Comparative Advantage states that trade can benefit all countries, if each country specialises in the production of goods in which they have a comparative advantage in. A country enjoys Comparative Advantage over another when it can produce a good with a lower opportunity cost in terms of other goods forgone.

Diagram [1]



Explanation [1]

The PPCs of country A (AA') and country B (BB') are shown. Before trade, each country is only able to consume what it produces. This means that its consumption possibilities are restricted to any point on the respective PPCs. **With trade, the new consumption point or possibilities beyond their respective PPCs** (AY for country A and ZB' for country B) is indicative of the gains to each country. Since the quantity of goods and services available to citizens of both countries have increased, there is an increase in material SOL.

(ii) Enhancing competition

[3]

With increased competition, there is more efficient allocation of resources as countries specialise in producing goods which they can produce more efficiently and at lower cost than other countries. More efficient resource allocation means that the economy is moving from a point within the PPC to a point on the PPC. [1]

[Draw diagram] [1]

Thus, material SOL improve as households enjoy higher consumption level as more output is being produced due to greater degree of division of labour and productive efficiency from specialization. [1]

Alternatively, students can explain that with enhanced competition, firms may have greater incentive to conduct R&D, leading to an outward shift of the PPC. [draw diagram] With more goods and services produced, material SOL increases.

(c) Explain why the weakness of Great British Pound (GBP) will hurt European exports to the UK.

[2]

Weak GBP → Price of imports from EU more expensive in terms of GBP [1]

Assuming PEDm>1, import expenditure for UK falls => export revenue for EU falls [1]

(d) With reference to the data, discuss how Brexit is likely to impact the UK economy. [8]

Answer Synopsis: Impacts must include both internal and external impacts, positive and negative impacts.

Intro:

Brexit refers to the leaving of UK from the European Union (EU). This answer will analyse the different impacts of Brexit on the UK economy.

Body 1: Disadvantages

One of the possible impact of Brexit could be the slowdown of the UK economy **due to fall in UK exports**. As mentioned in Extract 6 para 5 “the UK would lose trade with its neighbours (17 percent of EU exports go to the UK, whereas the EU absorbs 44 percent of UK exports) and reduce its negotiating power with the rest of the world.” Currently 44% of Britain’s exports goes to EU countries and it enjoyed the benefits of some negotiating power with the rest of the world when it was part of the European Union. However, with Brexit, the UK would not only see a fall in its exports to the EU but will also lose trade with its neighbours as it risks losing some of that negotiating power.

EV: Limited impact of fall in X as main trading partner is still USA (Fig 5)

The expected fall in UK’s export to EU, may lead to a **fall in investments** in the UK as mentioned in Extract 6 para 4 “businesses are delaying crucial decisions”. The result of falling investments in UK as well as outflow of investments from UK leads to a fall in UK’s GDP as well as a **fall in UK’s potential growth**. The fall in UK’s export and investment will lead to a **fall in its AD and hence RNY** (Draw and explain). This could lead to a rise in unemployment as demand for labour decreases when the economy contracts. Moreover, with the fall in both export revenue and FDI, the **BOP** of UK might worsen as well.

The idea of Brexit also lead to the weakening of the GBP and is likely to affect UK’s **price stability**. According to Extract 6 para 3, “the weakness of pound is fuelling domestic inflation”. Weakening of the currency will make imported raw materials more expensive in terms of GBP leading to imported inflation. (Draw SRAS curve fall leading to falling RNY and increasing GPL).

EV: The impact on price stability might be worse if the EU countries impose protectionistic policies on UK (Fig 4 shows UK mainly imports from EU countries).

Body 2: Advantages

However Brexit may provide UK with the freedom “to establish its own trade agreements with other countries” (extract 6 last para). This may raise UK’s exports and investment and hence the slowdown as predicted may not occur.

Moreover, according to extract 5, “Brexit was the result of widespread concern over the numbers of people coming to the UK that strained public services— millions of whom have done so under the EU’s freedom of movement rules in recent years.” Thus, with Brexit, the reduction in immigration would mean more jobs for British workers. This may lead to higher income and hence rising consumption and hence rising AD thus raising UK’s GDP. In addition,

the reduction in immigration can help UK to reduce the strain on its public services (Ext 5 para 2), improving SOL.

Evaluation: Overall the negative impacts are expected to outweigh the benefits in the short run due to the uncertainty which leads to fall in X and I. In the long run, if the UK manages to establish more FTAs with other countries, the fall in X and I may be mitigated. However, with rising deglobalisation, UK may not be able to renegotiate better trade deals.

Mark Scheme:

Knowledge, Understanding, Application and Analysis		
L2	<ul style="list-style-type: none"> Question requirements are interpreted accurately. Well-elaborated 2-sided discussion of how Brexit is likely to impact the UK economy. Apart from the negative impacts, must have at least 1 possible positive impact. Economic analysis is accurate, complete and well supported by contextual evidence. Appropriate AD-AS diagrams are used to support economic analysis, where relevant. <p>Well-elaborated negative impact only: max 4m</p>	4 – 6
L1	<ul style="list-style-type: none"> Question requirements are interpreted inaccurately. One-sided or sketchy answer. Inappropriate economic concepts, theories and principles are used. Inaccurate economic analysis. Inappropriate or wrong diagrams are used. 	1 – 3
Evaluation		
E	Evaluative comments are well-explained and supported by economic analysis. Unexplained evaluative comments.	2 1

(e) In the light of the issues mentioned in extract 6, discuss the policy options available to the UK government to achieve its macroeconomic goals. [10]

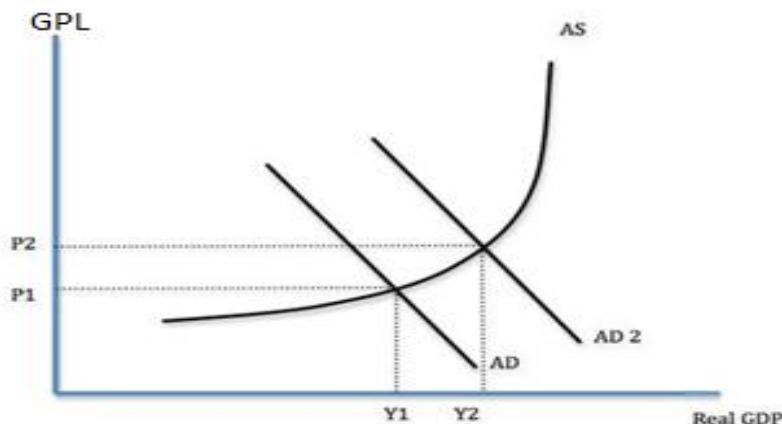
Introduction: Summarise issues faced by UK:

- **Weakened currency and inflation:** Ext 6: "The weakness of the pound is fuelling domestic inflation"
- **Business uncertainty:** Ext 6: "uncertainty about the terms of a Brexit deal between London and the EU is putting a brake on investment"
- **Fall in trade:** Ext 6: "the UK would lose trade with its neighbours (17 percent of EU exports go to the UK, whereas the EU absorbs 44 percent of UK exports) "
- **Slowdown:** Ext 6: "The Bank of England cut its growth forecast for this year from 1.9 percent to 1.7 percent"

Body 1: In view of the problem of an economic slowdown, to increase investments, UK can opt for **demand-led expansionary fiscal policy** through a package of tax cuts and increased government spending.

Tax cuts could include cuts in personal income tax and/or corporate tax.

- A fall in personal income tax would result in consumers having a higher disposable income. With a higher disposable income, consumers could afford to consume more domestically produced goods and services and this would lead to a higher overall consumption expenditure in the economy. Given $AD = C+I+G+(X-M)$, this would lead to an increase in the C component.
- A fall in corporate tax would result in firms having a higher after-tax profit. Thus, firms could afford to increase their expenditure on domestically produced capital equipment or intermediate goods and this would lead to a higher overall investment expenditure in the economy. This would lead to an increase in the investment component (I) of the AD function. This would give the domestic investment a boost and can bring back confidence of the domestic investors.
- An increase in government spending refers to government spending on final goods and services such as building more schools and hospitals as well as public transport infrastructures. This would also lead to an increase in the G component of the AD function.

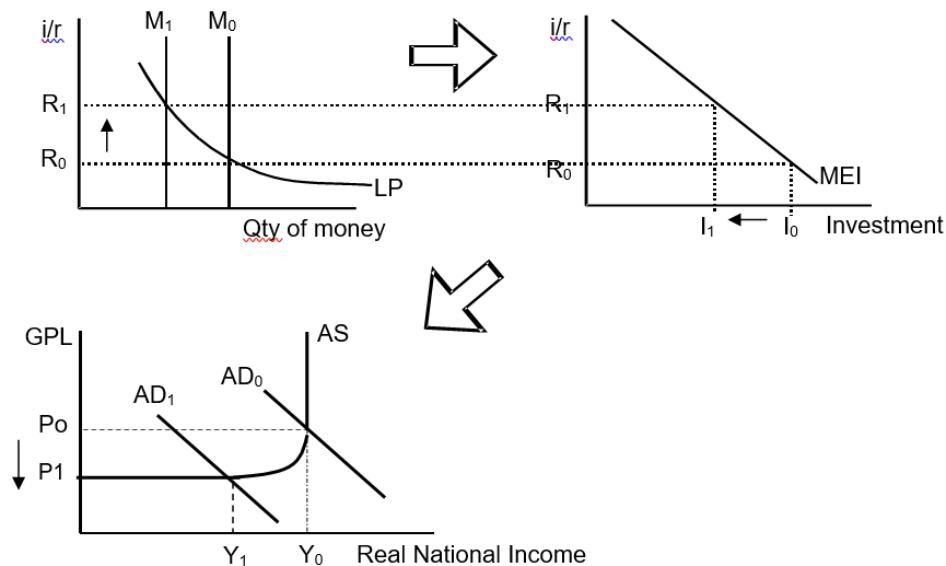


As shown in the diagram above, an increase in C, I and G components would lead to an increase in aggregate demand and the AD curve would shift to the right from AD to AD₂. The increase in real GDP would address the slowdown and increase RNY from Y₁ to Y₂ – hence achieving economic growth which is essential to the UK economy. Since demand for labour is in derived demand, increase in C, I, G component implies more production activities and greater employment opportunities for UK citizens as well.

However, expansionary fiscal policy might fuel the existing inflationary situation and government needs to address the problem separately to mitigate the effects of inflation. Additionally the effectiveness of fiscal policy is contingent on the size of the multiplier. If it is small, fiscal policy may be of limited use in altering AD. UK may have a low multiplier due to a high marginal propensity to tax (MPT). Similarly, UK being a large country, may face the problem of time lags like decision lag, execution lag.

Evaluation: Although EFP puts a strain on government budget, UK would be in a better position after Brexit as it is no longer bounded by the Maastricht Treaty. Previously, UK was unable to continue with EFP if it led to a budget deficit of more than 3% of its GDP.

Body 2: Contractionary MP: To address the problem of increasing GPL, business uncertainty and weakening currency, UK government can couple the expansionary FP with contractionary MP. By reducing the money supply from M₀ to M₁, it raises the interest rates from R₀ to R₁. With higher interest rates, the cost of borrowing rises and this reduces profitability, resulting in a fall in investments from I₀ to I₁. Furthermore, higher interest rates discourage consumption (C) as consumers may now choose to save more instead to earn the higher interest. The fall in I and C reduces the equilibrium level of national income from Y₀ to Y₁. Contractionary monetary policy also tends to lower the general price level from P₀ to P₁ as AD falls and will help to **address the rising inflation of UK**.



Additionally, the increase in interest rates will help to **attract hot money, leading to appreciation of GBP to stabilise the weakening currency**. An appreciation signals stability and strength of the economy as investors are guaranteed of their future returns. Moreover, an appreciation reduces the price of imported factor inputs, thereby **reducing imported cost-push inflation**.

Evaluation: Although Contractionary MP may adversely affect economic growth as RNY tends to fall, however in UK's case, it is expected not to have significant adversary effect on economic growth as is evident from **Extract 6** ; "monetary policy has run its course after a massive easing last year" which shows that investors were not responding to low interest rates." Thus, investments is likely to be interest inelastic. Therefore, even with an increase in interest rates, there will only be a less than proportionate fall in investments.

Note: Although EMP is theoretically possible, however, given UK's weak investment climate, EMP would not be very effective to enable UK to address its issues.

Note: Theoretically, an appreciation can help both imported inflation and can help in stopping the capital flight by inducing confidence in the UK currency. However, the Bank of England follows a flexible exchange rate system and **does not set the exchange rate** but its actions can indirectly affect the value of the pound. Thus, contractionary MP might help through the hot money channel by strengthening the GBP.

Body 3: FTA with other countries: To address the problem of falling trade as mentioned in Ext 6: "the UK would lose trade with its neighbours", UK should aim to have more FTAs with other countries of the world including the EU. FTAs would help UK to achieve her economic aims.

- Define FTA: Legally binding agreement between two or more countries that seeks to reduce or eliminate trade barriers.
- Explain that UK can sign both bilateral and multi-lateral FTAs to expand its exports markets.
- With the lowering of trade barriers against UK's X, UK will be able to leverage and trade according to its comparative advantage and increase both its export volume and value, overcoming its constraints of losing trade with its EU neighbours.
- Increase in X revenue → Increase AD → more than proportionate increase in NY (briefly explain the k effect) → increase real GDP → increase real national output → increase utilisation of existing resources → actual growth (Illustrate with rightward shift of AD curve)
- With firms increasing production → increase demand for labour, with labour being a derived demand → increase employment.
- Increase in X revenue improves current account of BOP (ceteris paribus).
- By being open to trade, UK can has benefit from its ability to import essential raw materials and food stuff more cheaply than resorting to produce such goods herself where the opportunity cost of doing so would might be high.
- Lower prices on imported inputs → lower COP → Increase SRAS → Increase actual growth, lower GPL, dampening cost-push inflation. (Illustrate with downward shift of SRAS curve)
- Lower COP would also increases UK's X price competitiveness, assuming $PED_x > 1$ → Increase in X revenue and similar effects on raising AD, actual growth and employment.
- By being open to trade, competition from foreign M lowers barriers to entry and forces firm to be cost-efficient and adopt product and process innovation → movement towards productive and dynamic efficiency,
 - Additionally FTAs encourage good relationships with other countries and may lead to an increase in FDI.
- Inward investment via FDI → increase in I component of AD → similar effects on raising AD, actual growth and employment.
- Increase in FDI → helps to build up capital stock and deepen UK's capital intensity. Increases economy's productive capacity and increases potential growth. (Illustrate with rightward shift of LRAS curve)

- Increase in FDI → transfer of technology know-hows and competition effect → encourages innovation, R&D → increases potential growth.
- FDI inflows improves capital account in SR, ceteris paribus improves overall BOP.

Evaluation: However, FTAs take a long time to materialise and other countries might not be agreeable to have FTA with UK as it has lost its negotiation power with the rest of the world after Brexit (Ext 6) and will need time to build up her credibility again.

[SS side policies are also acceptable, e.g. subsidies to address issues like domestic inflation and slow growth.]

Conclusion:

Preferably, UK should use different policies in the short run such as EFP to tackle issues like slow growth and use contractionary MP to address the weakening GBP and inflation. However, in the long term, it is better for UK to undertake SS-side policies for sustained growth. Furthermore, the government can also push for greater trade integrations with other countries such as joining economic cooperation and signing FTAs. These trade policies will invariably help to support the existing demand management and supply-side policies and help the government achieve its macroeconomic aims.

Mark Scheme:

Knowledge, Understanding, Application and Analysis		
L2	<ul style="list-style-type: none"> • Question requirements are interpreted accurately. • Two well elaborated policies using appropriate economic concepts and well supported by contextual evidence. (Must address the issues mentioned in extract 6 and show clear links how the policies are able to address those issues.) • Appropriate diagrams are used to support economic analysis, where relevant. <p>Only one policy discussed, but clearly explains how at least 2 of the issues faced by UK can be addressed- max 5m</p>	5 – 7
L1	<ul style="list-style-type: none"> • Gives theoretical response by simply explaining policies without any context to the issues faced by UK. • Addresses only one issue faced by UK. • Inaccurate economic analysis. 	1 – 4
Evaluation		
E	Evaluative comments are well-explained and supported by economic analysis. Show good understanding of conflicts between policies. Judgment made is based on the information provided in case material. Unexplained evaluative comments.	2 – 3 1

4 (a) Explain the key determinants of sustained economic growth. [10]

(b) Assess the extent to which the size and openness of an economy affects [15] the choice of macroeconomic policies a government adopts to achieve sustained growth.

Suggested answer for part (a):

Question Analysis	
Command	Explain
Content	Key determinants, sustained economic growth (actual & potential growth)
Context	No specific context
<i>Synopsis: Students are expected to explain the determinants of both actual and potential growth in order to achieve sustained economic growth. Answer should cover a broad scope and include both internal and external factors as well as recognise that what constitutes the “key” determinants would vary with different economies. Analysis should be supported by ADAS framework with use of real-world examples.</i>	

Introduction

- Economic growth is defined as the increase in real GDP or an expansion in the productive capacity of an economy. It is one of the macroeconomic goals of a government.
- For economic growth to be sustained in the long-run, actual growth should keep pace with potential growth, thereby leading to non-inflationary growth.
- The “key” determinants of sustained economic growth vary with different economies.

Body

(A) Key determinants of actual growth

- Actual growth is the percentage annual increase in national output. It results from the higher and better utilisation of resources which can be achieved through an increase in AD when the economy is operating below the full employment level and/or a rise in SRAS.
- Explain the determinants of actual growth: $\uparrow AD$ due to $\uparrow C, I, G, (X-M)$
 - Increased consumption expenditure due to growing population and rising disposable income → middle class expansion especially in emerging economies like China (76% of China's urban population will be considered middle class by 2022 compared with 4% in 2000) → rising affluence leads to increased purchasing power → consumption-led growth as evident in the fact that consumption expenditure accounted for 58.8% of China's GDP growth in 2017 → $\uparrow C$ leading to $\uparrow AD$.
 - Increased investment expenditure due to positive economic outlook or inflow of FDI attracted by sound economic fundamentals, good network and infrastructure, strong legal framework and attractive tax system (e.g. Singapore) → $\uparrow I$ leading to $\uparrow AD$.
 - Increase in net exports due to growing global economy and rising pace of globalisation, especially in small and open economies like Singapore which has one of the highest trade to GDP ratio in the world in excess of 300% → $\uparrow (X-M)$ leading to $\uparrow AD$

- An increase in C, I and (X-M) leads to an increase in AD from AD_0 to AD_1 as seen in Figure 1.
- Assuming that the economy is operating in the intermediate range, an increase in AD will lead to a multiplied increase in RNY from Y_0 to $Y_1 \rightarrow$ actual growth.
- Often, developing economies with significant spare capacity will experience the largest increase in RNY while an overheating economy operating at full employment will not see a rise in RNY and will face only inflationary pressures.

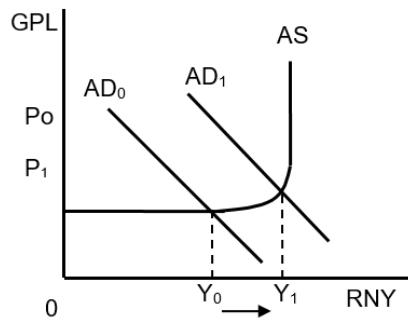


Figure 1:
Actual growth (\uparrow AD)

- Explain the possible determinants of actual growth: \uparrow SRAS due to \downarrow COP
 - Reduction in business costs due to improved productivity, government subsidies etc. $\rightarrow \downarrow$ COP $\rightarrow \uparrow$ SRAS.
 - A fall in cost of production will lead to a rise in SRAS, causing a downward shift of the SRAS curve from AS_0 to AS_1 as seen in Figure 2.
 - This causes an increase in RNY from Y_0 to $Y_1 \rightarrow$ actual growth.

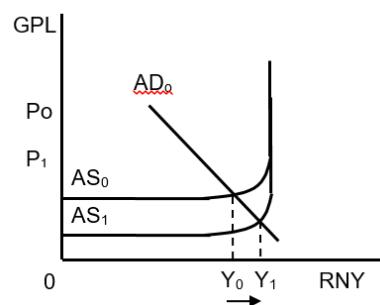


Figure 2: Actual growth (\uparrow SRAS)

(B) Key determinants of potential growth

- Potential growth is the rate at which the economy could grow if it were to use all its resources and can be achieved through the increase in productive capacity of the economy (i.e. \uparrow LRAS).
- Explain possible determinants of potential growth focusing on the increase in quantity and quality of factors of production and technological advancement:
 - Increase in quantity of labour: The size of the labour force affects the level of output of a country and is dependent on two factors – population size and labour force participation rate. To increase the quantity of labour, the government may embark on loose immigration policy or implement pro-family work policies (e.g. Singapore government encouraging employers to introduce more flexible working hours or work-from-home arrangements so more women are willing to enter the workforce) or promote population growth through schemes such as the Baby Bonus.
 - Increase in quality of labour: Policies to improve skills and productivity of the workforce (e.g. Skills Future, Adapt and Grow Initiative, TechSkills Accelerator etc.)
 - Increase in quantity and quality of capital: Attract FDI, encourage R&D and innovation through funding and tax incentives etc.

- An increase in the quantity and/or quality of factors of production will lead to an increase in productive capacity causing a rise in LRAS from AS_0 to AS_1 .
- This causes an increase in the full employment capacity of the economy from Y_F to $Y_{FF} \rightarrow$ potential growth.
- While an increase in LRAS leads to potential growth, it COULD also lead to actual growth from Y_0 to Y_1 if the economy is operating close to full employment.

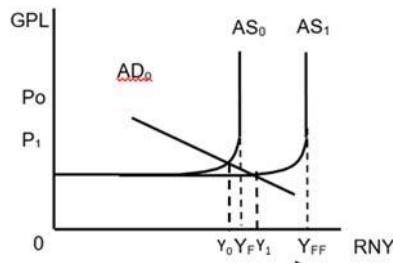


Figure 3:
Potential growth (\uparrow LRAS)

Conclusion

- For economic growth to be sustained in the long-run, the actual growth should be kept in pace with the potential growth of the economy.
- If the actual growth exceeds potential growth, there will be increased inflationary pressure causing prices to rise. If actual growth is slower than potential growth, there will be increased spare capacity, resulting in higher unemployment.

Mark Scheme:

Knowledge, Application, Understanding and Analysis		
L3	<ul style="list-style-type: none"> ● Recognising that what constitutes the “key” determinants would vary with different economies. Scope of answer should consider internal and external factors to attain top marks within the band. Good application of real-world examples and appropriate use of economic framework to support the analysis with accurate and well-explained diagrams. ● Developed explanation of key determinants of actual and potential growth. 	9 - 10 8
L2	<ul style="list-style-type: none"> ● Undeveloped explanation of key determinants of actual and/or potential growth with appropriate but incomplete economic analysis. <p>[Developed answer that focuses only on the determinants of actual OR potential growth – max 5]</p>	5 – 7
L1	<ul style="list-style-type: none"> ● Answer that is mostly irrelevant in answering the question, with basic concept errors and inaccurate economic analysis. ● Mere listing of points with no or inappropriate diagrams to aid explanation. 	1 – 4

Suggested answer for part (b):

Question Analysis	
Command	Assess the extent
Content	Size and openness of economy, choice of macroeconomic policies, achieve sustained growth
Context	No specific context ("a government")
<i>Synopsis: Students are expected to explain how the size and openness of an economy would affect the choice of macroeconomic policies to achieve both actual and potential growth which would require the application of both demand-management and supply-side policies. The answer should also consider other factors that need to be considered in the choice of policy. Analysis should be supported by ADAS framework with use of examples.</i>	

Introduction

- Define size and openness of an economy:
 - Size of economy refers to the size of the domestic market and the availability of factor endowment.
 - Openness refers to the size of flows of goods and services, capital and labour in the economy.
- To achieve sustained growth, the macroeconomic policies adopted must promote actual growth (i.e. \uparrow AD and/or SRAS) and potential growth (i.e. \uparrow LRAS). These may include demand-management and supply-side policies.

Body

Thesis: Size and openness of economy can affect the choice of macroeconomic policies to achieve sustained economic growth

- Size and openness of economy influences the choice of demand-management policies: fiscal and monetary policies vs exchange rate policy
 - Small and open economies have relatively smaller C, I and G components relative to (X-M). Given the small size of their domestic markets, these economies tend to rely on exports to global markets to drive economic growth. They also have large imports due to relatively less abundant factor endowment. Consequently, they tend to have smaller multiplier values due to higher MPM since $k=1/(mpm+mpt+mps)$.
 - Hence, **expansionary fiscal and monetary policies** implemented to stimulate actual growth would be more effective when pursued by larger economies:
 - Explain how expansionary fiscal policy, through increasing government spending ($\uparrow C, I, G$) and reducing direct taxes ($\uparrow C, I$) would lead to an increase in AD and hence a large multiplied increase in RNY due to larger multiplier for large economies.
 - Explain how expansionary monetary policy leads to increase C and I through lowering of interest rates and cost of borrowing, resulting in an increase in AD and a similarly large multiplied increase in RNY for large economies → more effective in stimulating actual growth.
 - Additionally, in small and open economies such as Singapore, monetary policy is also not feasible due to the inability to control money supply and hence interest rates.

- On the other hand, **exchange rate policy** may be more effective in stimulating growth in small and open economies that are more reliant on the (X-M) component.
 - Explain how an exchange rate depreciation would lead to an increase in (X-M) leading to increased AD and hence RNY, stimulating actual growth.
- However, for most small and open economies, exchange rate policy is used more for its supply-side effects to maintain low and stable prices which is a requisite for sustained growth as it promotes X and attracts FDI.
 - This can be achieved by a gradual appreciation of the exchange rate which moderates demand-pull inflation while curbing cost-push inflation as the price of imported raw materials will be relatively cheaper in the domestic currency.

Anti-Thesis: Size and openness of economy may not affect the choice of macroeconomic policies to achieve sustained economic growth

- Supply-side policies are used by both small and open as well as large economies to bring about sustained growth (both actual and potential growth)
 - For example, the policy to promote R&D and innovation will lead to increased productivity which will lower COP and increase the productive capacity of the economy leading to sustained growth.
- Other factors also affect the choice of macroeconomic policies (consider any two)
 - Government budget position → affects the extent to which the government can fund tax cuts and government spending in adopting an expansionary fiscal policy leading to possible crowding out effects in the financial and resource markets.
 - Consumer and business sentiments affecting the interest elasticity of investments.
 - Possible conflicts with other macroeconomic objectives (e.g. conflict between economic growth and inflation).
 - Time period and sustainability of policy measure

Conclusion / Evaluation

- The size and openness of an economy affects the choice of macroeconomic policies a government adopts to achieve sustained growth to a small extent.
- The size and openness of an economy does affect its choice of macroeconomic policies adopted to achieve sustained economic growth in terms of effectiveness and feasibility.
- This is more so for demand-management policies as compared with supply-side policies.
- However, size and openness of an economy is only one factor that influences policy choice. There are other factors for the government to consider including resource constraints and the unintended consequences of each policy chosen.

Mark Scheme:

Knowledge, Understanding, Application and Analysis		
L3	<ul style="list-style-type: none"> • A well-developed and balanced answer on how the size and openness of an economy would affect policy choices to achieve both actual and potential growth, as well as other factors that should be considered. • Use of appropriate economic concepts and framework to support the analysis. Context of small and open vs large economies is addressed. 	8 – 10
L2	<ul style="list-style-type: none"> • An undeveloped answer on how the size and openness of an economy would affect policy choices to achieve actual and/or potential growth, with some consideration of other factors. • Some use of economic concepts with appropriate diagrams which may be inadequately explained or applied to support the analysis. 	5 – 7
L1	<ul style="list-style-type: none"> • Answer that minimally considers the size and openness of an economy in influencing policy choices to achieve growth with major conceptual errors. Inappropriate or wrong use of diagrams. 	1 – 4
Evaluation		
E3	Evaluative judgement on the extent to which the size and openness of an economy would affect policy choices which is well-explained and supported by economic analysis.	4 – 5
E2	Attempt to explain evaluative judgement but is incomplete or inaccurate.	2 – 3
E1	Unexplained judgement	1

5 To help Singapore achieve her productivity target of 2 to 3% each year until 2020, the Singapore government has focused on strengthening human capital, boosting innovation through tax incentives and building state-of-the-art digital infrastructure. There has also been a tightening of foreign worker policies in a bid to support innovation and automation especially among small and medium enterprises.

Discuss whether possible trade-offs in economic aims may arise as the [25] government implements these strategies to raise productivity in Singapore.

Suggested answer:

Question Analysis	
Command	Discuss whether
Content	Trade-offs in economic aims; measures to raise productivity
Context	Singapore
<i>Synopsis: Students are expected to explain how the strategies outlined in the pre-amble work to raise productivity in Singapore and analyse how the implementation of these strategies may or may not lead to trade-offs with other micro and macroeconomic aims. Analysis should be well-supported by the use of relevant economic framework (e.g. ADAS framework) and the application to the Singapore context by using specific examples to illustrate the answer.</i>	

Introduction

- Following an announcement in 2010 by the Economic Strategies Committee to reach a productivity growth target of 2-3% per year over the next decade, the Singapore government has introduced a slew of initiatives to raise productivity.
- Labour productivity refers to the output per worker per actual hour worked.
- Growth in labour productivity can be achieved through structural reforms to enhance the quality of our labour force. However, this could also lead to possible trade-offs with other economic aims which include:
 - microeconomic aims: efficiency (allocative & productive efficiency) and equality in income distribution.
 - macroeconomic aims: sustainable economic growth, low unemployment, price stability and favourable balance of payments.

Body

Thesis: Strategies to raise productivity in Singapore may lead to trade-offs in economic aims

Strategy #1: Measures to “strengthen human capital”

- Explain how strengthening human capital through skills training and upgrading (E.g. Skills Future) can lead to improved labour productivity, as Singapore transits into a knowledge-based economy.
- Possible conflict with economic aims:
 - Greater income inequality (micro) – Lower-skilled workers may not benefit as much from skills training and upgrading schemes due to lower funding support and limited

course options. Participation rates among this group of workers would also tend to be lower as they are focused on making ends meet. Hence, income inequality may actually worsen as low skilled workers lag behind in a knowledge-based economy.

Strategy #2: Tax incentives and state-of-the-art digital infrastructure to boost innovation

- Explain how tax incentives and building state-of-the-art infrastructure can boost productivity especially in the manufacturing sector, allowing workers to adopt new processes and become more efficient.
- Possible conflict with economic aims:
 - Demand-pull inflation (macro) – Increased infrastructural spending could lead to a rise in the G component of AD → increase in AD → increase in GPL leading to demand-pull inflation especially as Singapore is operating close to full employment.

Policy #3: Tightening of foreign worker policies to support innovation and automation

- Explain how tightening of foreign worker policies raises productivity as it forces firms, especially SMEs, to innovate and automate their processes in order to cope with the manpower shortage.
- Possible conflict with economic aims:
 - Cost-push inflation (macro) – Illustrate and explain how the tightening of foreign worker policies reduces the supply of labour in Singapore, driving up wages due to the labour shortage and causing cost-push inflation in the short-run.
 - Structural unemployment (macro) – Higher cost pressures may cause firms in labour-intensive industries (e.g. construction or hospitality industries) to close down while increased automation would lead to jobs being replaced by machines → could result in structural unemployment if those who are made redundant do not possess or are not able to acquire the skills required in the economy.

Anti-thesis: Strategies to raise productivity in Singapore may lead to the attainment of macroeconomic goals

- **Increased economic growth (actual and inclusive), fall in unemployment, fall in inflation**
 - Tax incentives (to promote innovation), building of infrastructure and developing skilled labour → attracts FDI into Singapore → increase in AD
 - Skills training and upgrading raises labour productivity which in turn enhances efficiency → lowers cost of production → increase in SRAS
 - Increase in AD and SRAS → increase in RNY (actual growth), fall in unemployment and fall in GPL (reduce inflation).
 - With higher labour productivity, workers can also receive higher wages without leading to wage-push inflation → inclusive growth.
- **Sustained growth (actual + potential growth)**
 - Apart from increasing actual growth achieved through ↑SRAS, a rise in productivity through skills training and upgrading, R&D and innovation also leads to enhanced quality of labour and capital → increase in productive capacity → increase in LRAS → potential growth. A rise in actual and potential growth → sustained growth.

- **Improved balance of payments**

- Fall in cost of production arising from increased productivity improves price competitiveness of Singapore exports while innovation enhances the quality of exports → increase in exports → improves current account
- Increase in FDI → improves capital account.

- **Equality in income distribution**

- Skills training and upgrading provides an avenue for lower-skilled workers to raise their productivity, making them more employable and leading to increased wages → lowers the income gap.

Conclusion / Evaluation

- The strategies implemented to raise productivity in Singapore may lead to short-term trade-offs with micro and macroeconomic objectives. In the long-run, however, these measures should be compatible with Singapore's economic objectives.
- Propose measures to mitigate the short-term trade-offs in economic goals arising from the strategies.

Mark Scheme:

Knowledge, Understanding, Application and Analysis		
L3	<ul style="list-style-type: none"> • A well-developed and balanced explanation on how the strategies in the pre-able work to raise productivity in Singapore and whether the implementation of these strategies may or may not lead to trade-offs with micro and macroeconomic goals. • Analysis is well-supported by the use of ADAS framework and applied to the Singapore context with the use of relevant examples. • For an accurate and well-developed answer that only considers trade-off with macroeconomic goals. 	18 – 20 15 – 17
L2	<ul style="list-style-type: none"> • Undeveloped answer that explains how the strategies may or may not lead to trade-offs in economic goals with some application to the Singapore context. Use of diagrams but with incomplete explanation. • Answer shows some attempt to link the strategies used to raise productivity to conflicts in economic goals but analysis is weak and poorly developed. 	12 – 14 9 – 11
L1	<ul style="list-style-type: none"> • Answer shows some knowledge of how the strategies work to raise productivity but is inadequately explained with major concept errors. • Answer is mostly irrelevant or inaccurate with few valid points. 	5 – 8 1 – 4
Evaluation		
E3	Well-explained judgement on whether the strategies adopted to raise productivity in Singapore would lead to trade-offs in economic goals and supported by economic analysis.	4 – 5
E2	Attempt to make evaluative judgement is incomplete or inaccurate.	2 – 3
E1	Unexplained judgement	1

6 Singapore has dropped a spot to become the world's third most competitive economy, according to a report by the World Economic Forum. But while Singapore posted an "excellent performance" across the board, it still lags behind the world's most prolific innovation powerhouses and cost pressures remain a concern.

- (a) Explain why the comparative advantage of a country may change over time. [10]
- (b) Discuss the effectiveness of the various economic policies the Singapore government could adopt to maintain her competitiveness in the global economy. [15]
-

Suggested answer for part (a):

Question Analysis	
Command	Explain why
Content	Change in comparative advantage
Context	No specific context ("a country")
<i>Synopsis: Students are expected to briefly explain the concept of comparative advantage (CA) and provide at least 3 reasons why CA may change over time. The answer should focus on the idea of opportunity cost, using economic framework (e.g. PPC or DDSS diagram) and real-world examples to support the analysis.</i>	

Introduction

- Define comparative advantage (CA)
 - The Theory of Comparative Advantage explains that trade can benefit all countries, as long as each country specialises in the goods in which they have a comparative advantage.
 - A country enjoys comparative advantage over another when it can produce a good with a lower opportunity cost in terms of other goods forgone.
- The CA of a country may change due to a change in the quantity and/or quality of its factor endowment, technological advancement or change in government policies.

Body

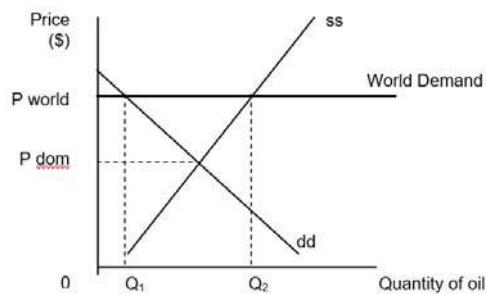
- Change in quantity and/or quality of factor endowment
 - A country with more factor endowments would be more efficient in terms of the ability to produce more output relative to another country. Consequently, a change in the quantity and/or quality of these factor endowments would lead to a change in a country's CA.
 - For example, China, being the most populous country in the world, is endowed with abundant low-cost labour which allows her to specialise in the production of labour-intensive manufacturing products such as garments and shoes at a lower opportunity cost compared with other countries. But in recent years, labour costs in China have been driven up by strong export demand due to increased globalisation and an aging population leading to a tightening of the labour force. This has eroded China's CA in labour-intensive industries and they face increased competition from low-wage countries like Bangladesh (whose wages are a third of that in China), Myanmar and

Cambodia as firms start to move their operations there to take advantage of their lower labour costs.

- The CA of a country can also be eroded with the depletion of natural resources such as coal and oil. For example, countries like Brunei Darussalam whose economies are highly dependent on oil exports, is facing the prospect of losing its CA in the hydrocarbons industry as its level of oil reserves is slowly depleting. These countries therefore have to develop new areas of CA such as in eco-tourism to achieve its economic objectives.

- **Technological Advancement**

- A change in technological capabilities could lead to a change in the relative opportunity costs of production and hence the CA a country would have over another.
- For example, the US has gained CA in the production of oil in recent years as technological advancement has made fracking more economical, enabling shale oil to be extracted profitably from underground shale formations. The relatively low extraction cost of shale oil, made possible with technological advancement, translates to a lower opportunity cost of producing oil, leading to the US developing a comparative advantage in oil production. [Explain using PPC or DDSS diagram].



- **Change in government policies**

- Governments may also play a role in determining the type of CA a country has and may encourage the development of new CA, especially in moving up the production chain, as part of their development strategy.
- For example, the Singapore government has maintained flexibility in continually shifting towards new areas of CA to avoid direct competition with other low-cost manufacturers such as China. In the 1960s, Singapore used to have CA in the production of low-end manufacturing products but as she started to lose its cost advantage to other lower cost economies in the region, the Singapore shifted its focus to higher-end manufacturing capital intensive and knowledge-based industries. To create CA in these areas, the Singapore government implemented policies such as the Skills Future Scheme to enhance labour productivity through skills training and upgrading. To encourage R&D, infrastructure and facilities such as the Biopolis and R&D funding were made available to attract foreign direct investments and produce biomedical research services at a lower opportunity cost.

Conclusion

- Comparative advantage can either be given due to the economy's factor endowments or created due to active government policies. In the long-run, proactive economies such as Singapore may dedicate resources towards developing new areas of comparative advantage, while less proactive economies may face an erosion of comparative advantage due to depletion of existing resources.

Mark Scheme:

Knowledge, Application, Understanding and Analysis		
L3	<ul style="list-style-type: none"> An accurate and well-developed explanation on what is meant by comparative advantage and why it may change over time. Economic analysis is well-supported by the appropriate use of diagrams and real-world examples. 	8 – 10
L2	<ul style="list-style-type: none"> An undeveloped answer on what is meant by comparative advantage and why it may change over time but lacking in scope and depth. Appropriate use of diagrams and examples but may not be explained or used to support economic analysis. 	5 – 7
L1	<ul style="list-style-type: none"> Descriptive answer that merely explains the theory of comparative advantage or identifies the sources of comparative advantage without elaborating on why it may change over time. Limited application of economic analysis. 	1 – 4

Suggested answer for part (b):

Question Analysis	
Command	Discuss
Content	Effectiveness of economic policies; maintain competitiveness in global economy
Context	Singapore government
<p><i>Synopsis: Students are expected to provide a detailed explanation of the different economic policies that the Singapore government can adopt to maintain BOTH price and non-price export competitiveness in the global market. Analysis should also focus on the effectiveness of these policies in achieving its objectives as well as to highlight the policy limitations.</i></p>	

Introduction

- Global competitiveness is a broad term which can be assessed by various economic indicators. The essay will focus on export price and non-price competitiveness.
- Identify the key characteristics of the Singapore economy, highlighting her reliance on trade and the importance of maintaining global competitiveness for growth:
 - Small economy in terms of domestic market size and lack of resources
 - Open in terms of size of flows of goods and services, labour and capital → access to global market and foreign imports to overcome resource constraints
- Singapore government can leverage on both demand and supply-side policies, as well as trade policies to improve her export competitiveness in the global market.

Body

Policy #1: Exchange rate policy (ERP)

- Explain how Singapore adopts a gradual appreciation of the exchange rate to improve on export price competitiveness through reducing imported inflation which in turn improves her competitiveness in the global market.
- Effectiveness of policy: Policy is effective in keeping prices of Singapore exports competitive as our exports have a high import content.
- Policy limitations:
 - Gradual appreciation of SGD means that our exports would become relatively more expensive in terms of foreign currency → this could potentially hurt our export price competitiveness.
 - Effectiveness also depends on exchange rate movements of our trading partners.

Policy #2: Trade policies (e.g. signing of FTAs)

- Explain how Singapore's pro-trade policies such as the signing of Free Trade Agreements can help to improve her export price competitiveness through the lowering of trade barriers and the increased flow of capital and labour to ease her resource constraints.
- Effectiveness of policy: Policy is effective in helping Singapore to diversify her export markets and ease the cost pressures arising from her resource constraints.
- Policy imitations:
 - FTAs are not exclusive to Singapore and the terms of the agreement depends on our bargaining power. Competitors can also negotiate with our trading partners and clinch a better deal such as greater tariff cuts and preferential customs treatment that can decrease costs, thereby eroding our competitive advantage.
 - Multilateral trade pacts which extend the same terms and conditions to all signatory countries may not enhance Singapore's export price competitiveness if our competitors are also a signatory to the same agreement.
 - The FTAs may shift production of raw materials away from lower-cost non-member producers to a higher-cost member economy which Singapore's export sector is dependent on. This will reduce Singapore's export price competitiveness as it shifts production away from economies with comparative advantage.

Policy #3: Supply-side policies

- Supply-side policies to enhance *export price competitiveness*:
 - Explain how Singapore adopts supply-side policies to enhance *export price competitiveness* through improved labour productivity to sustain the high wage cost (e.g. Productivity Innovation Credit Scheme, Skills Future Credit etc.)
 - Effectiveness of policy: A more sustainable solution to manage high wage costs.
 - Policy limitations:
 - Employers may not be willing to undergo training.
 - Policy tackles the **symptoms** instead of the root cause of the export price competitiveness (i.e. high wage) → may not be an appropriate policy.
- Supply-side policies to enhance *quality of exports*:
 - Explain how Singapore adopts supply-side policies to improve the *quality of exports* through innovation and R&D (e.g. Productivity Solutions Grant etc.)

- Effectiveness of policy: Policy is effective in helping Singapore to develop new areas of CA rather than competing directly with lower cost competitors such as Vietnam.
- Policy limitations:
 - Supply-side policies are long-run policies that are unlikely to enhance Singapore's competitiveness in the global economy in the short-run
 - Drain on government budget → limits ability to improve future competitiveness.

Conclusion / Evaluation

- Given the small and open nature of the Singapore economy, the main threats to Singapore's competitiveness tend to come from the external economy.
- Singapore's exports are losing competitiveness mainly due to competition from other lower cost economies such as China and India in the production of more capital-intensive goods which includes high-end electronics, pharmaceutical, services.
- Measures to increase price competitiveness may be insufficient to counter completely the lower costs in these economies. Thus, Singapore should focus more on boosting non-price competitiveness such as supply-side policies that promote export quality.
- Hence, supporting export quality to increase non-price competitiveness is the most important policy in improving global competitiveness.

Mark Scheme:

Knowledge, Understanding, Application and Analysis		
L3	<ul style="list-style-type: none"> ● Developed explanation of policies used to maintain Singapore's price AND non-price export competitiveness with analysis of the effectiveness and limitations of each policy. ● Appropriate use of economic concepts and well-explained diagrams to support the analysis with real-world examples applied in the context of the Singapore economy. 	8 – 10
L2	<ul style="list-style-type: none"> ● Undeveloped explanation of policies used to maintain Singapore's price and/or non-price export competitiveness with analysis of the effectiveness and limitations of each policy. ● Appropriate use of economic concepts and diagrams to support the analysis with some application to the Singapore context. <p>[Answer that focus on explaining the policies without analysis on its effectiveness in maintaining Singapore's competitiveness – max 6]</p>	5 – 7
L1	<ul style="list-style-type: none"> ● Weak explanation of policies with limited reference to the context of Singapore's competitiveness in the global economy. ● Answer contains inaccurate economic concepts and/or largely irrelevant economic analysis. 	1 – 4
Evaluation		
E3	Ability to weigh the effectiveness of the different policy measures in improving export price competitiveness and enhancing the quality of exports in context of the external threats faced by Singapore.	4 – 5
E2	Attempt to consider the effectiveness of the different policy measures but analysis is incomplete or inaccurate at times.	2 – 3
E1	Unexplained judgement	1

2018 JC2 H2 Econs Prelim Paper 2

Section A

2018 JC2 H2 Econs Prelim Paper 2 Question 1

1	Analysts are forecasting a sharp rise in oil prices by the end of this year as a result of a reduction in oil flows in Iraq due to fighting between government forces and Kurdish militant groups. In addition, oil production is still being withheld as part of a pact between the Organization of the Petroleum Exporting Countries (OPEC) and non-OPEC producers to tighten the market. In the main growth areas of Asia, consumption remains strong especially in China and India, the world's top importers. Adapted from https://www.reuters.com/article/oil-prices , 23 rd Oct
(a)	Explain how the above-mentioned factors might have caused a sharp rise in oil prices. [10]
(b)	Discuss whether a subsidy or a maximum price control is more effective in increasing the affordability for petrol due to the rise in oil prices. [15]

(a)

Question Analysis	
Command	Explain
Content	Demand, Supply, Elasticities
Context	Oil Market
Synopsis: <i>Students are required to identify the 1 demand and 2 supply factors from the preamble that caused the increase in oil prices. After which, they have to use PED and PES concepts to account for the sharp (magnitude) increase in prices.</i>	

Intro:

- State what determines price in a free market. (demand and supply)
- The reason for the 'sharp' rise in oil prices can be attributed to:
 - o Rise in Demand "...consumption remains strong especially in China and India..."
 - o Fall in Supply "...fighting between government forces and Kurdish militant groups..." together with "...a pact between the Organization of the Petroleum Exporting Countries (OPEC) and non-OPEC producers..."

Coupled with:

- o The PED and PES of oil being price inelastic.

Body 1:

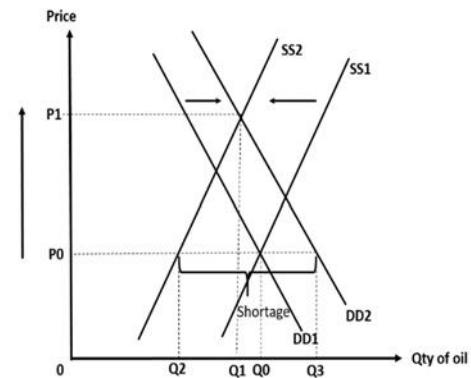
- Demand for oil rose due to rapid growth of emerging economies, China and India. Oil is required as a factor input for production processes. Thus, due to industrialisation in China and India, the demand for oil rose.
- Supply falling due to reduction in flows in Iraq due to fighting between government forces and Kurdish militant groups. As there was political and social instability in Iraq, the supply of oil was disrupted. (Iraq holds 12.1% of OPEC crude oil reserves).
- Supply of oil production being withheld as part of a pact between the Organization of the Petroleum Exporting Countries (OPEC) and non-OPEC producers to tighten the market so as to reduce the glut due to the boom of US shale oil output. This will help to maintain the price of oil so that oil producers will not suffer from low oil prices if supply continues to rise.

Body 2:

- Demand of oil is price inelastic as it is a form of necessity for production processes.
- Supply of oil is also price inelastic as the construction time of oil rig is likely to be long. Changes in quantity supplied is also likely to be less responsive to price changes as oil production is being withheld as part of a pact between the Organization of the Petroleum Exporting Countries (OPEC) and non-OPEC producers to tighten the market.

Body 3:

- As shown in the diagram above, the increase in demand for oil will cause the demand curve to shift rightwards from DD₁ to DD₂ and the fall in supply for oil will cause the supply curve to shift leftwards from SS₁ to SS₂.
- A shortage of Q₂Q₃ now exists at the original price, P₀. During a shortage, consumers will bid for higher prices to get the limited amount of oil. And as price rises, quantity supplied will also increase according to law of supply. Thus, shortage will drive up prices and price of oil will now increase from P₀ to P₁. The magnitude of the increase in price will also be larger as demand and supply are price inelastic. At P₁, the quantity demanded is the same as quantity supplied and hence, the market is in equilibrium.



Conclusion:

- Sharp rise in oil prices will raise the cost of production in the country and this will have negative consequences on the macroeconomic goals.
- Hence, governments will have to implement policies such as subsidy and maximum price controls to curb the negative effects of rising oil prices.

Qn 1 part a)

Mark Scheme:

Knowledge, Application, Understanding and Analysis		
L3	<ul style="list-style-type: none"> • Question requirements are interpreted accurately. • Appropriate economic concepts (Demand, Supply and Price Elasticities of Demand and Supply) are used. • Well-developed explanation of how the factors mentioned in the preamble caused a sharp rise in oil prices. • Appropriate Demand/Supply diagram/s is/are used to support economic analysis. <p>Makes reference to the context.</p> <ul style="list-style-type: none"> - SS change in drastic (Military conflict together with the Pact amongst both OPEC and non-OPEC) - DD change is small ("remains strong", rather than 'increased growth') - DD inelastic (provides anecdotal support) - SS inelastic (provides anecdotal support) 	8 – 10
L2	<ul style="list-style-type: none"> • Addresses some question requirements accurately. • Some appropriate economic concepts (Demand, Supply and Price Elasticities of Demand and Supply). • Undeveloped explanation of how the factors mentioned in the preamble caused a sharp rise in oil prices. • Appropriate Demand/Supply diagram/s is/are used but might not be explained or used to support economic analysis. <p>Competent use of economic theory and tools of analysis (to account for the sharp rise in prices)</p> <ul style="list-style-type: none"> - Shows double shifts - Relates to PES and PES - Single shift with no reference to elasticity concepts. 	5 – 7
L1	<ul style="list-style-type: none"> • Question requirements are interpreted inaccurately. 	1 – 4

	<ul style="list-style-type: none"> Inappropriate economic concepts, theories and principles are used. Inaccurate economic analysis. Inappropriate or wrong diagrams are used. <p>Weak/no use of economic tools of analysis</p> <ul style="list-style-type: none"> - Single sided shift. - Confused btwn dd & ss concepts - Incorrect analysis 	
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(b) Discuss whether a subsidy or a maximum price control is more effective in increasing the affordability of petrol due to the rise in oil prices.

Question Analysis	
Command	Discuss whether
Content	Workings of subsidy and maximum price control
Context	Oil prices rising, no particular country required (students will need to bring in relevant examples to explain the answer)
<i>Synopsis:</i> <i>Students need to recognise that oil is a factor input for producing petrol. Hence, the price of petrol will rise due to rising oil prices. Students will then be required to explain how a subsidy and maximum price control work to increase the affordability of petrol and analyse which method is more effective.</i>	

Intro:

- State the importance of keeping petrol affordable :

Petrol is used to power private transport and is important to maintain mobility of labour and commerce in the economy. Efficient low cost transport is important for the running of a market economy.

- Outline the criterion to assess 'effectiveness':

We will examine two approaches available for governments to keep petrol affordable; subsidies and maximum price controls. The effectiveness of these measures will be assessed against the ability to reduce price, the costs of implementation as well as the potential side-effects.

Body 1: How a subsidy works:

- Subsidy** → reduce cost of production → SS increase from SS1 to SS2 as shown in the figure below → Price will fall from P_1 to P_2 and Quantity will rise from Q_1 to Q_2

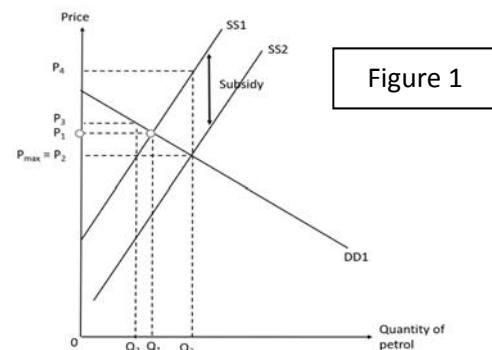


Figure 1

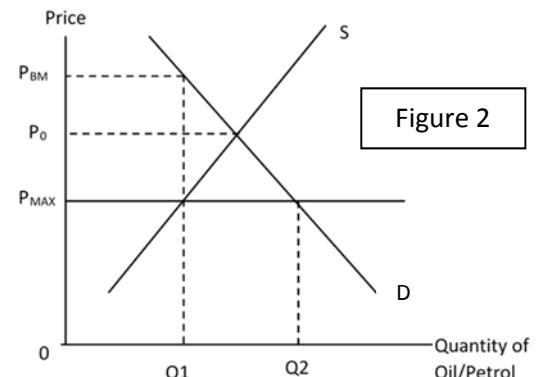
Body 2: Effectiveness of subsidy

- PRICE:** Subsidy → P falls from P_1 to P_2 and Qty will rise from Q_1 to Q_2 . Therefore, consumers can consume more petrol than before at a lower price (affordable for consumers).
- IMPLEMENTATION:** Subsidising the producer is fairly easy to do by directly funding producers/suppliers of oil producers/retailers.
- SIDE-EFFECTS:** Government also has to have sufficient funds to subsidise the consumers. If the government does not have sufficient budget to do so, it will have to either borrow or raise taxes such as personal income tax and/or corporate tax so as to raise revenue to fund the subsidies.
- OTHER CONCERNS:**

- Govts cannot be assured that the funds given to reduce the producers' costs of production will result in lower prices. Funds could just be kept as increased profits by producers not reducing prices.
- Unintended consequences: A subsidising and lowering the price of oil/petrol will have the effect of reducing the incentive for consumers to use 'greener' sources of energy. This fall in demand for alternative fuels will eventually result in a less than desirable level of pollution in the country.
- NOTE: The effectiveness of the subsidy also depends on the type of subsidy provided. A subsidy on oil would have a more far reaching effect than a subsidy on petrol. Subsidising petrol would directly benefit the end user of petrol. A subsidy on oil would not only benefit the end user of petrol but would have a more far reaching effect on the general cost of production as oil is used in the generation of electricity, which in turn affects the cost of production of almost all goods and services.

Body 3: How a price ceiling works

- **Maximum Price Control** → Price ceiling → a *legally established maximum price* → It is binding when it is set below the market equilibrium price → With reference to the figure below, it is at P_{MAX} which is below original price, P_0 .



Body 4: Effectiveness of Price ceilings

- **PRICE:** If P_{MAX} is set below the equilibrium price then the price consumers pay will be lower (more affordable). However, the quantity supplied to consumers will only be at Q_1 even though quantity demanded at this lower price is at Q_2 . This means there will be a shortage of $Q_2 - Q_1$.
- **IMPLEMENTATION:** A price control is also easy to set but policing costs may be high as the resultant shortage will encourage the formation of black markets selling at a higher price (P_{BM}). To be effective these black markets would have to be policed and brought under control.
- **SIDE EFFECT:** The primary side-effect of any form of price control would be the formation of black markets. In this case the official/legal retailers who sell at the low price of P_{MAX} would not be able to supply all the consumers (because of the shortage). Thus, consumers who are willing and able to pay a higher price, in this case P_{BM} will entice retailers to sell them at this much higher, illegal price.
- **OTHER CONCERN:**
 - The resultant shortage can lead to many other potential problems other than black markets. This could include looting, and other socially disruptive behaviour among consumers.

Body 5: Comparison and assessment:

- **AFFORDABILITY/PRICE:**
 - In terms of affordability, although both measures are able to reduce price, a subsidy ensures greater levels of consumption while a price ceiling will actually reduce levels of consumption. Subsidising production means increased output (Q_1 to Q_2 in Fig1), however, a price ceiling reducing the quantity consumed to Q_1 (Fig 2).
 - In terms of each measure's ability to reduce price, they are both equally effective. Since the demand of petrol tends to be inelastic a relatively small subsidy can result in a significant fall in the price. In the case of a price ceiling, the maximum price set could be set arbitrarily, independent of demand and supply conditions.
- **IMPLEMENTATION:** A rich government with ample budget reserves can afford to subsidise oil/petrol producers (even if the oil/petrol market is a major market in the economy). However, a government facing budget problems or with a large national debt, may be reluctant to use subsidies. On the other hand, the implementation problems associated with a price ceiling are connected with policing costs. Thus, governments with strong policing abilities like military dictatorships may implement price controls with little difficulties.

Conclusion:

Overall, subsidy seems more effective than a maximum price control as the latter creates a black market which creates more inefficiency and may eventually raise the price even higher than the original price. If maximum price control is used, macroeconomic goals (economic growth & stable prices) may be compromised due to producers facing rising cost of production (due to high prices charged in black market) and cutting back on production (due to shortage of petrol).

Nevertheless, it also depends on the country's financial capabilities as well. A government in budget deficit is unable to provide subsidies and may incur debt and worsen economic situation if it borrows. Also, provision of subsidies is not a long-term solution as it is a strain on government's budget and incurs opportunity cost. Thus, subsidies may be provided in the short-run but government has to implement other policies such as reducing the reliance on petrol by using biofuels.

Part b) Mark Scheme:

Knowledge, Understanding, Application and Analysis		
L3	<ul style="list-style-type: none"> Well-developed explanation of how subsidy and maximum price control work to increase affordability of petrol. Detailed analysis on the effectiveness of subsidy and a maximum price control in increasing the affordability of petrol. Appropriate diagrams are used to support economic analysis, where relevant. <p>Good use of contextual examples to illustrate points. Responses that were able to distinguish between the markets for "oil" and "petrol" should get to this level.</p>	8 – 10
L2	<ul style="list-style-type: none"> Undeveloped explanation of how subsidy and maximum price control work to increase affordability of petrol Limited analysis on the effectiveness of subsidy and a maximum price control in increasing the affordability of petrol. Appropriate diagrams are used but might not be explained or used to support economic analysis. <p>Largely theoretical answer with little or no illustrative examples. Economic analysis is incomplete and/or contains some errors.</p>	5 – 7
L1	<ul style="list-style-type: none"> Question requirements are interpreted inaccurately. Inappropriate economic concepts, theories and principles are used. Inaccurate economic analysis. Inappropriate or wrong diagrams are used. 	1 – 4
Evaluation		
E3	Evaluative comments on whether a subsidy or a maximum price control is more effective in increasing the affordability of petrol.	4 – 5
E2	Attempt to explain evaluative comments is incomplete or inaccurate at times.	2 – 3
E1	Evaluative comments are unexplained or not supported by economic analysis.	1

2	The merger of the UK's second- and third-largest supermarket chains (Asda-Sainsbury) could hand them control of about 30% of the grocery sales, a similar level to Tesco, meaning two businesses would account for 60% of the market in future.	Adapted from The Guardian, 3 rd May 2018
	Discuss whether the UK government should be concerned with the merger of these supermarket chains.	[25]

Question Analysis	
Command	Discuss whether
Content	Effects of merger on the social welfare
Context	These Supermarket Chains (i.e. Asda and Sainsbury)
Synopsis: <i>Students are required to explain how the merger of Asda and Sainsbury will increase their market share and its impacts (both negative & positive) on the society (i.e. consumers and producers as a whole). Thereafter, students will need to weigh the positive and negative impacts (costs & benefits) and come to a judgment on whether the UK government should be concerned with the merger of these supermarket chains with substantiation.</i>	

Intro:

A merger refers to when two firms agree to go forward as a single firm rather than to remain separately owned and operated. In this case, firms may decide to merge to pursue cost savings and/or increased market share, with the underlying motive of increasing profits. The merger could bring about both negative and positive impacts on the society (i.e. consumers and producers as a whole). Thus, it is important that UK's government analyses these impacts to determine whether they should be concerned with the merger in their desire to pursue **efficiency** and **equity** which in turn maximises social welfare.

Body 1: Why would the firms merge?

Merger between Asda & Sainsbury will bring about costs savings

- The increased scale of production from merger lead to greater scope for reaping internal EOS **[Illustrate using an example of internal EOS due to merger]** which refers to a fall in AC arising from increased scale of production of a firm and thus increases profits, ceteris paribus.

Merger can lead to higher total revenue earned by Asda & Sainsbury

- By merging, Asda-Sainsbury is able to capture a larger share of the global market as the consumer base from both firms are now combined, which leads to higher demand for Asda-Sainsbury. Demand for the Asda-Sainsbury's products also becomes more price inelastic as consumers now have fewer substitutes to switch to in the same price range. With reference to Figure 1, firm's demand increases from AR to AR', Asda-Sainsbury will adjust its output to where MR'=MC. Equilibrium price and quantity sold increases to P' and q' respectively, leading to higher TR which is price multiplied by quantity sold. Profits therefore increase from area PBEAC to area P'FGAC' as seen in Figure 1.

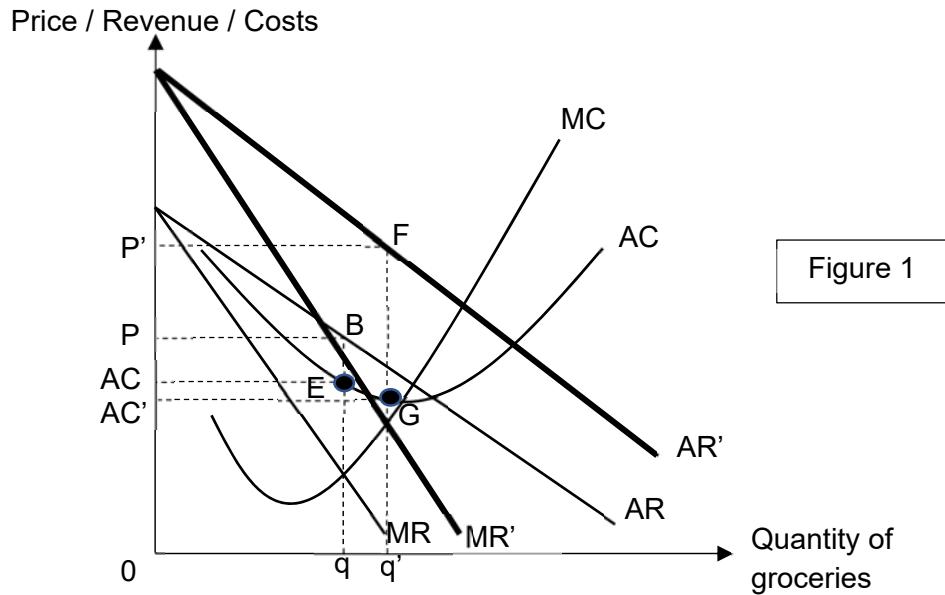


Figure 1

Body 2: Government should be concerned with the merger of the supermarkets

With less competition in the market, it may result in worsening of allocative efficiency

- The merger of Asda-Sainsbury could be intended to deter entry of potential entrants by Asda or Sainsbury given that they control about 30% market share as indicated in the preamble. In this instance, this would be considered as an example of artificial barriers to entry which could lead to possible market dominance. As a result, it would face a higher demand as Asda-Sainsbury captures a larger section of market demand. Asda-Sainsbury would also have a more price inelastic demand as there are now fewer firms in the market after the merger, which means there are fewer substitutes available in the same price range. Assuming cost conditions remains unchanged with merger, this would result in greater social welfare loss. Before the merger, the deadweight loss is represented by area abc as shown in Figure 2. There was underproduction since for the units between the profit maximising output level (Q) and the allocative efficient level (where firm's AR cuts MC), $P > MC$, society values each of the units more than the MC of producing it which yields a net gain for society. By not producing those units, society lost the potential gain in welfare. After the merger, the deadweight loss is represented by area def, which is bigger than area abc.

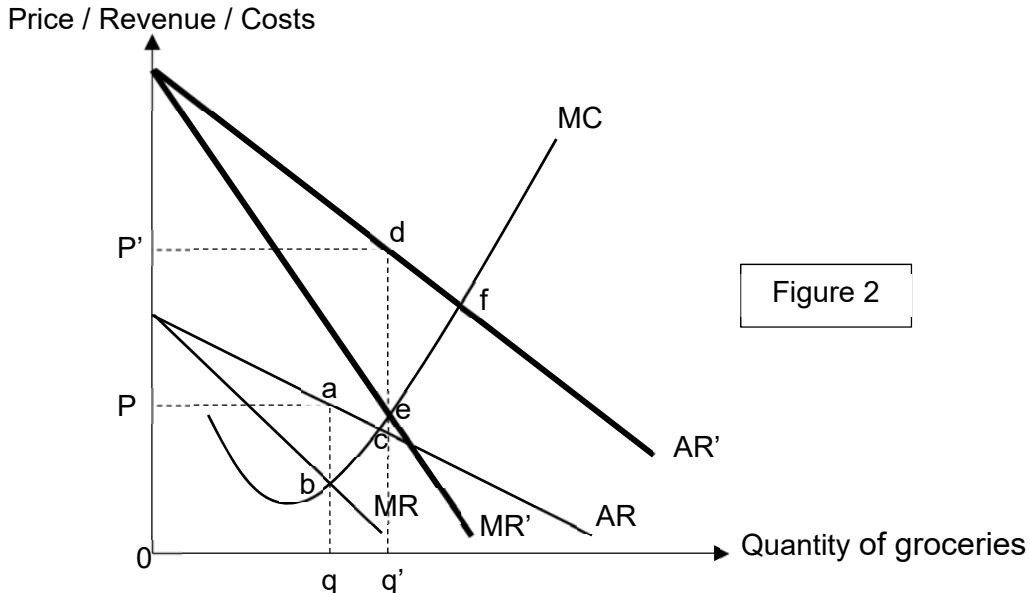


Figure 2

With the merger, there may be greater inequity

- Due to the possible market dominance of Asda and Sainsbury, consumers are now charged at a higher price of P' as explained above. Given that groceries are necessities, the demand for groceries would likely to be price inelastic especially for the low income consumers. An increase in price of groceries would result in a less than proportionate decrease in quantity demanded of groceries and thus there would be an increase in consumer expenditure on groceries for the low income consumers. In addition, Asda-Sainsbury would enjoy an increase in supernormal profits from area PBEAC to area PFGAC as seen in Figure 1. This worsens inequity between consumers and firms as Asda-Sainsbury gains its profits excessively at the expense of low income consumers who require groceries for survival.
- It may also lead to worsening of inequity as structural unemployment may result. With merger, there would be streamlining of processes such that redundant workers are laid off. For example, instead of Asda and Sainsbury having 1 marketing manager each, Asda-Sainsbury now only needs only 1 marketing manager. Hence, the workers that lose their jobs may find themselves structurally unemployed since the skills the retrenched worker possess may not match with what the UK economy needs, thus worsening equity in income distribution between households.

Merger may lead to X-inefficiency

- The merger may lead to the pursuit of alternative objective such as revenue maximisation given that the shareholders of Asda-Sainsbury (who are primarily interested in maximising profits) could be more far removed from the operations of the firms to be fully aware of the optimal decisions that need to be made to maximise profits.
- This may lead to complacency of Asda-Sainsbury's managers where the income of these managers could be dependent on the total revenue of the firm. Thus, they may not do its best to produce at the least average cost given its supernormal profits earned from merger as seen in Figure 1. As a result, they might choose to maximise total revenue rather than profits which would result in X-inefficiency. **[Explain and Illustrate using a graph]**

Merger may lead to less process and/or product innovation

- If the market of supermarkets is less contestable, the possible market dominance due to merger could lead to less incentive for R&D and thus less process and/or product innovation **[Provide examples to illustrate]** → no improvement in quality over time, limited increase in variety over time, limited reduction in average cost over time.

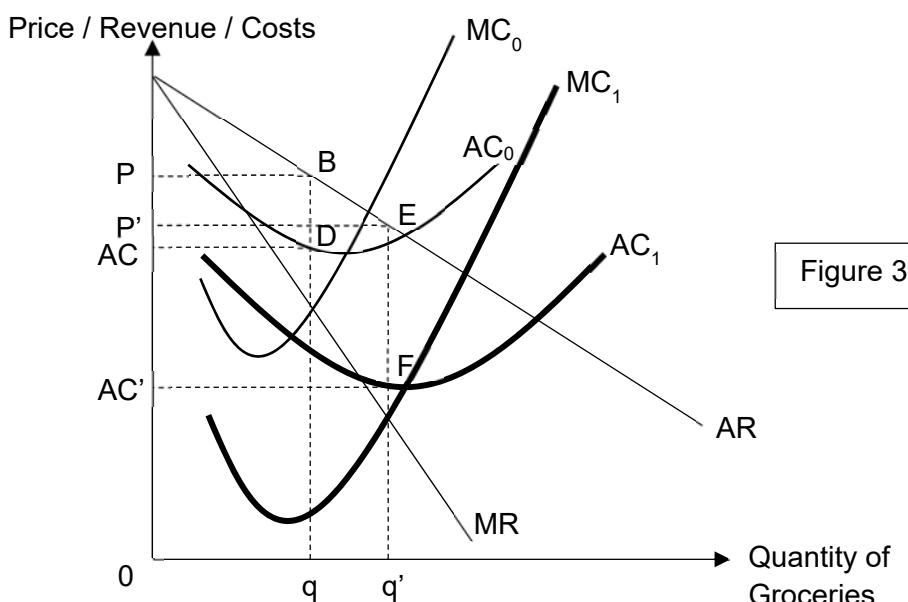
Body 3: Government should not be concerned with the merger of the supermarkets

With a merger, prices can be lowered which can improve equity.

- The merger of Asda-Sainsbury could result in the increased scale of production which enables it to use a bigger plant, resulting in internal EOS. For example, it can enjoy technical EOS from a bigger warehouse due to the principle of increased dimensions – storage space rises more than in proportion to construction costs.
- As a result, Asda-Sainsbury may lower its price **[Explain & Illustrate using a graph]** which makes groceries more affordable for low income consumers. Given that groceries are necessities, the demand for groceries would likely to be price inelastic for the low income consumers. A decrease in price of groceries would result in a less than proportionate increase in quantity demanded of groceries and thus there would be a decrease in consumer expenditure on groceries for the low income consumers. This would improve equity in distribution of goods as the low income consumers are better able to access groceries given that these are essential goods for survival.

The merged supermarket may be more dynamically efficient.

- R&D tends to be costly and inherently risky with uncertain results. With increased profits earned from the merger, Asda-Sainsbury would have greater ability to undertake investments in R&D. This results in process and/or product innovation, which enhances dynamic efficiency and improves society's welfare over time.
- Through process innovation, cost may be reduced and this will result in both AC and MC falling **[Explain and Illustrate using examples]**, leading to a lower price charged by the firm and larger output produced. As shown in Figure 3, this is beneficial for society's welfare as consumers benefit from lower prices (P to P') and higher consumer surplus, and firms also benefit from increased profits earned from area PBDAC to area P'EFAC'.



The merged supermarket is better able to compete with foreign supermarkets and also venture overseas.

- With internal EOS reaped and product, process innovation undertaken, Asda-Sainsbury would thus be able to lower its prices as highlighted above and/or offer higher quality products for consumers in future and better able to compete with foreign supermarkets such as Aldi and Lidl. They may also eventually be able to expand their supermarkets overseas and thus increase total revenue and thus profits, ceteris paribus. **[Explain & Illustrate using graph]**

Conclusion:

- Overall, the UK government should not be concerned in the short run given that the supermarket is largely contestable given that the potential entrants such as Amazon has access to technology to deliver the groceries items sold in the physical store in the supermarket chains. Moreover, supermarket sells necessities to consumers where the merger may result in lower prices for Asda-Sainsbury products given the constraint of prevailing price wars among discount supermarket chains such as Aldi in the recent year which would be significantly beneficial for the low-income households and thus achieving equity. These constraints would likely to result in merged Asda-Sainsbury to bring greater benefits arising from reduction in cost to the society than the costs of higher market share.
- However, the scope for internal EOS that can be reaped from the merger is likely to be lower for supermarkets given that the production process is still rather labour-intensive. Furthermore, Asda – Sainsbury would hold 30% of the market which is similar to Tesco, the merger could be intended to deter potential entry in the future through anti-competitive strategies which may result in higher prices in the future and thus worsens equity. Thus, the net benefits arising from merger could be smaller in the long run. Thus, the UK government would need to be concerned in the long run which explains why the competition authorities in UK would investigate mergers if the combined firm have at least a 25% market share¹.

¹ <https://www.gov.uk/mergers-when-they-will-be-investigated>

Mark Scheme:

Knowledge, Understanding, Application and Analysis		
L3	<ul style="list-style-type: none"> • Thorough knowledge of merger and theory (cost/revenue concepts & firm's graph) coupled with an excellent ability to use firm's diagram to explain the various impacts (both positive and negative) of the merger on the consumers and producers as a whole which in turn affect both efficiency and equity in a precise, logical and reasoned manner • Excellent use of examples that are appropriate to the context presented in both preamble and the question set. • Good knowledge of merger and theory (cost/revenue concepts & firm's graph) coupled with an ability to use firm's diagram to explain the various impacts (positive and negative) of merger on the consumers and producers as a whole which in turn affect both efficiency and equity. • Good application to question set including the information presented in the preamble. • Good use of examples that are appropriate to the context presented in both preamble and the question set. • Reasoned (analytic) structure to the whole answer. 	18 – 20 15 – 17
L2	<ul style="list-style-type: none"> • Answer relevant to the question but theory (cost/revenue concepts & framework) and the various impacts of merger on the consumers and producers as a whole which in turn affect both efficiency and equity incompletely explained. • Some ability at diagrams with incomplete explanation. • Accurate but undeveloped explanation of the various impacts of merger on the consumers and producers as a whole which in turn affect both efficiency and equity together with undeveloped explanation of the theory (cost/revenue concepts & framework) • Limited ability at organisation of ideas. 	12 – 14 9 – 11
L1	<ul style="list-style-type: none"> • Shows some knowledge of what merger is and why firms merge. • Meaning of question not properly grasped. • Basic errors of theory. • Inadequately explained. • A few valid points. • Answer mostly irrelevant or inaccurate. 	5 – 8 1 – 4
Evaluation		
E3	Well-explained judgment on whether UK government should be concerned with the merger of these supermarket chains supported by economic analysis.	4 – 5
E2	Attempt to explain evaluative comments is incomplete or inaccurate at times.	2 – 3
E1	Evaluative comments are unexplained or not supported by economic analysis.	1

3	(a)	Explain how consumers and firms make rational decisions in the pursuit of self-interest.	[10]
	(b)	Discuss whether rational decision-making by consumers, firms and government will always lead to an efficient allocation of resources.	[15]

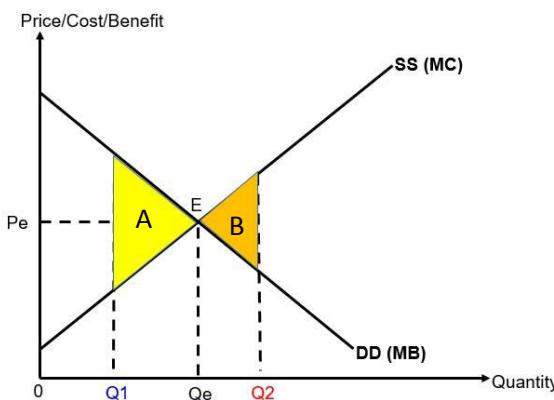
Question Analysis	
Command	Explain
Content	Marginalist Principle
Context	Consumers and Firms
Synopsis:	
<ul style="list-style-type: none"> Students need to show an understanding that consumers and firms makes rational decision where they aim to maximise their self-interest (Consumers: utility maximisation, Firms: profit maximisation). After which, they are required to use the Marginalist Principle to explain how consumers and firms make rational decisions. 	

Intro:

- All economies face the problem of scarcity, a situation where there are unlimited wants but limited resources. Thus, choices have to be made for the best allocation of resources in an economy.
- Similarly, consumers and firms also face constraints and thus must also make choices. As opportunity cost is incurred when making choices, societies will choose the particular assortment of goods and services with the objective of gaining the highest level of satisfaction with the least possible cost.
- Both consumers and firms makes rational decision where they aim to maximise their self-interest.
- In the case of consumers, utility maximisation while in the case of firms, it is profit maximisation.
- This can be achieved by weighing up the opportunity cost arising from an activity against the benefits, by considering the marginal effects of change.

Body 1: Marginalist principle applied to consumers

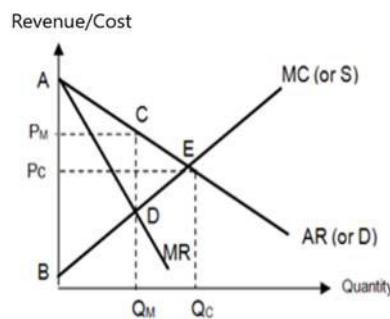
- A rational consumer seeks to maximise net total benefits from consuming a good. Rational decision-making by consumers involves considering the marginal benefits and the marginal costs of consuming the good.
- The marginal benefit is the satisfaction derived from consuming an additional unit of the good while the marginal cost is the price paid for the good.



- At Q_1 , there is under-allocation of resources to this product from society's viewpoint. There has also been a loss of welfare which is called deadweight loss (area A). Welfare can be increased by increasing consumption up till Q_e .
- At Q_2 , there is over-allocation of resources to this product from society's viewpoint. There has also been a loss of welfare which is called deadweight loss (area B). Welfare can thus be increased by reducing consumption up till Q_e .
- Therefore, consumers will consumer till the point at Q_e where $MB = MC$ (P) to maximise net total benefit.

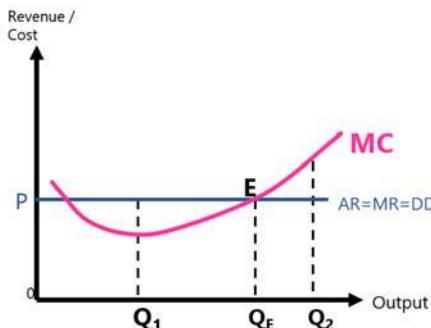
Body 2: Marginalist principle applied to firms

- A rational firm seeks to maximise total profits from the production and sale of a good. Rational decision making by firms means that firms will base their output decision on the marginal revenue and marginal cost.
- In deciding how many units of a good to produce, a profit maximising firm will produce up to the point where the additional cost from producing one additional unit of output equates the additional revenue from selling it.
- A firm with monopoly power can control either the price or output. Being rational in their decision making, monopoly firms will maximize their profits and set a price at P_M at quantity Q_M where $MC = MR$, referring to Figure 2 below. However, consumers value an additional unit of the good more than its marginal cost and hence welfare can be further increased by increasing the production of the good to where $P = MC$ at a lower price P_C and at a greater quantity Q_C . Thus, there is a deadweight loss of CDE due to the under-production of goods and services by large and dominant firms. Welfare is not maximized and hence market dominance causes an inefficient allocation of resources.



OR

- Assuming it's a perfectly competitive firm.



- A rational firm will produce and sell an extra unit of a good as long as $MR > MC$ (Q1). Because this means that by producing that unit, there will be bigger addition to revenue (MR) than to cost (MC) and total profits will increase given that marginal profit is positive.
- When production by the firm is at an output (Q2) where MC exceeds MR , producing that adds more to cost than to revenue and hence reduce profit. Firms' profits can be increased by cutting back on production since marginal profit is negative. Firms thus produce up to the point, Q_E where $MR=MC$ where the total profit is maximised.

Conclusion:

- The marginalist principle is adopted by both consumers and firms when they attempt to maximise their self-interest.
- When resource allocation is left to the price mechanism, goods are produced up to the point where demand matches supply. Since demand reflects MB and supply reflects MC, at the market equilibrium point, where demand matches supply, $MB=MC$ and society's welfare is maximised.

Mark Scheme:

Knowledge, Application, Understanding and Analysis		
L3	<ul style="list-style-type: none"> • For an answer that uses the marginalist principle to explain how both producers and consumers make their consumption and production decision. • Appropriate diagrams are used to support economic analysis. 	8 – 10
L2	<ul style="list-style-type: none"> • For a descriptive answer that recognises the marginalist principle is the basis of rational decision making but there are gaps in explanation. • Appropriate diagrams are used but might not be explained or used to support economic analysis. • For a one-sided answer that only clearly explains rational decision making by the firms OR consumers. (Max 6) 	5 – 7
L1	<ul style="list-style-type: none"> • Question requirements are interpreted inaccurately. • Inappropriate economic concepts, theories and principles are used. Inaccurate economic analysis. • Inappropriate or wrong diagrams are used. 	1 – 4

b) Discuss whether rational decision-making by consumers, firms and government will always lead to an efficient allocation of resources. [15]

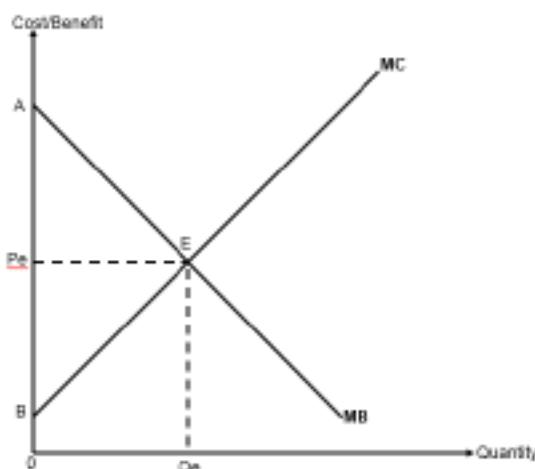
Question Analysis	
Command	Discuss
Content	Allocative efficiency and Sources of market failure
Context	Consumers, Firms, Government
Synopsis:	
<ul style="list-style-type: none"> • Students need to explain how rational decision-making by consumers, firms and government will lead to allocative efficiency in a perfect market and analyse 3 sources of market failure in which rational decision-making by consumers, firms and government will lead to allocative inefficiency. 	

Introduction

- An efficient allocation of resources occurs when there is an optimal distribution of goods and services. With consumers aiming to maximize their satisfaction, firms aiming to maximize their profits and government to ensure efficiency in allocation and equity in wealth and income distribution, rational decision-making by these economic agents could lead to efficient allocation of resources in certain circumstances.

Body 1: Thesis: Rational decision-making by consumers, firms and government always leads to an efficient allocation of resources.

- Rational decision-making by consumers, firms and government will lead to an efficient allocation of resources under the conditions that goods have no externalities, goods are in rivalry and are excludable, there is perfect competition and information, perfect mobility of factors of production and there are income and wealth equality.
- Allocative efficiency is a situation where the optimal mix of goods and services are being produced resulting in maximisation of welfare where both the consumer and producer surpluses are maximized, at areas AEPe and BPeE respectively. This occurs when firms produce at $P_e = MB = MC$ (Figure 3).

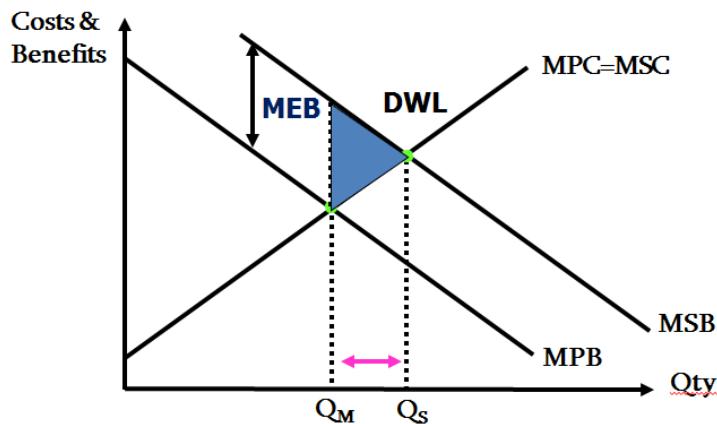


Body 2: Anti-Thesis: Rational decision-making by consumers, firms and government does not always lead to an efficient allocation of resources.

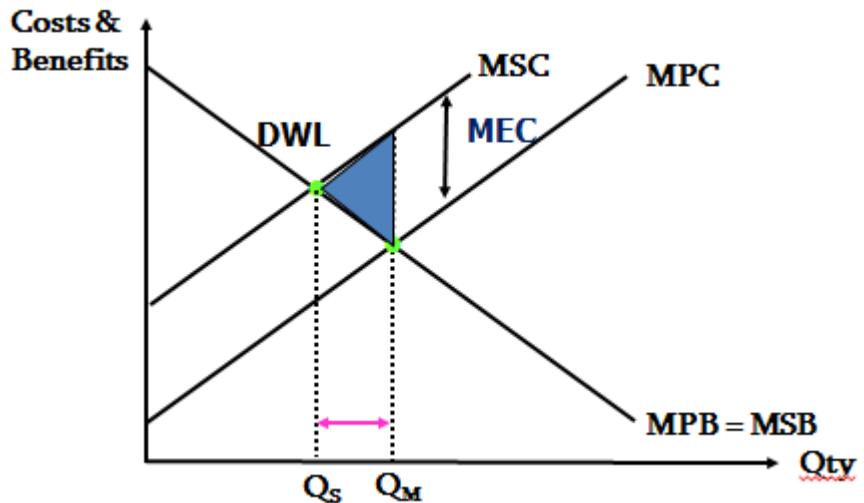
- Therefore, should there be distortions to the market such that the conditions mentioned previously do not hold, rational decision-making by consumers, firms and government will not always lead to an efficient allocation of resources. This means that there are too few or too many resources used in the production of a good or service and the total surplus (consumer surplus + producer surplus) is not maximized. Examples of such situations will be when there are imperfections in the market such as market dominance, goods have externalities and firms and consumers have imperfect information.
- Positive externality or external marginal benefits are benefits borne by individuals or society who are not directly involved in the production or consumption of a good. They are also known as third party benefit. Merit goods such as education, healthcare, sports facilities and museums tend to give rise to positive externalities. Vaccinations against contagious disease not only help the person vaccinated but also the people who he comes into contact with but are not vaccinated (third party) as they have a lesser

likelihood of contacting the contagious disease (external benefit).

- As there are external benefits to consumers, the MSB curve, lies above the MPB curve by an amount equal to MEB. Without any government intervention, the market equilibrium is where $MPC = MPB$. This will give the market equilibrium quantity Q_m . The social optimum level of output is attained when the cost of producing the last unit is equal to the benefit derived from the last unit consumed from society's point of view, that is, when $MSC = MSB$. This occurs at output level Q_s in Figure 6. At Q_m , MSB is greater than MSC. Society values an extra unit of the good more than what it would cost society to produce it. Therefore, the price mechanism under-allocates resources to the production of the good. The shaded area represents the welfare loss to society as a result of this under-allocation of resources. For additional $Q_m - Q_s$ units produced, consumers value the product more than what it costs society to produce it. Thus, society's welfare can be increased by increasing output. In general, on its own, the market which functions on self-interest, is incapable of capturing third party costs and benefits in production and consumption decisions, to arrive at a socially optimal level of output which implies that there is inefficient allocation of resources.
- To encourage the consumption of vaccinations, the government can provide subsidies so that the subsidy will internalize the external benefit and the equilibrium level of output will be at the socially optimum point, Q_s .



- External costs or negative externality refer to cost borne by individuals or society who are not directly involved in the production or consumption of a good. They are also known as third party costs. In the case where external costs exist, the resultant marginal social cost (MSC) will be greater than marginal private cost (MPC). These occur when individual decision makers fail to consider external costs of their economic activities that are imposed and harmful to third parties. Demerit goods such as cigarettes, alcohol and harmful drugs give rise to negative externalities. Pollution caused by the production of chemicals in the firm and thus dumping of chemical wastes in rivers incurs negative externalities. This affects the fishermen and villagers living near the river (third parties). The fisherman's revenue may be affected due to a smaller catch while the villagers may have to incur higher medical costs from drinking the polluted water (external effect). These external costs are not compensated by the firm which pollutes the river



- As there are negative externalities in production, the MSC curve, lies above the MPC curve by an amount equal to MEC. Without any government intervention, the industry achieves market equilibrium at output Q_m . At this level of output, $MPB = MPC$. The social optimum level of output is attained when the cost of producing the last unit is equal to the benefit derived from the last unit consumed from society's point of view, that is, when $MSC = MSB$. This occurs at output level Q_s in Figure 7. At Q_m , there is overproduction of the good compared with the socially optimal level of output, Q_s where MSB curve intersects with the MSC curve. Therefore, the price mechanism overallocates resources to the production of the good. By summing the excess of the marginal social cost over the marginal social benefit for the additional units $Q_s Q_m$, there will be a welfare loss to society as shown in the shaded area. Hence, goods which give rise to negative externalities are over-produced resulting in welfare loss. Thus, resource allocation is inefficient and hence negative externalities cause market failure.
- Since external costs result in the overproduction of goods, society can promote an efficient allocation of its resources by adopting policies that encourage the producers of such goods to reduce their output. To reduce the production of chemicals which results in more chemical wastes being disposed in the river, the government can tax the firms responsible for the pollution caused or to issue a tradable permit where a restricted amount of pollution is permitted.
- In a perfectly competitive market, consumers and producers have perfect knowledge of the market and the good or service. However, in the real world, this is not the case and decisions are made based on incomplete information. Often, consumers make decisions to purchase goods based on adequate knowledge of the costs of the product of the seller and the prices of products charged by other sellers. For example, consumers purchase many goods such as cars, fridge, oven and other consumer durables only a few times in a life time. Consumers may not be fully aware of the quality of the goods until they have purchased them. Advertising may contribute to consumers' ignorance and mislead them in terms of the benefits of the good. This imperfect information gives sellers a degree of market power to set a higher price and thus leads to allocative inefficiency. This problem of imperfect information is often seen in the health care markets where patients often do not know enough about medicine to fully comprehend their own health problems and treatment options. Hence, they often rely on the advice of doctors, who are expected to act in the best interests of their patients. Thus, without government intervention, a doctor may prescribe unnecessary tests or recommends more expensive treatments in order to increase his earnings. Thus,

consumer surplus and society's welfare are lower than they would have under a competitive market, leading to allocative inefficiency.

- Although government intervenes to correct the market failure, the government is subjected to government failure as well where on top of trying to solve for market failure, the government may instead create inefficiencies due to insufficient information, administrative costs and political objectives. For instance, as the government intends to subsidize vaccinations so that the external benefit is internalized, the government may not know the full costs and benefits of the subsidize plan. This prevents the government from knowing the optimal level of subsidy to impose to internalize the external benefit. This shows that although the government wishes to address the interests of consumers, they may not be aware of one's wishes and misinterpret behaviours.

Conclusion

- Rational decision-making by consumers, firms and government will lead to an efficient allocation of resources under certain assumptions which often do not hold in reality.
- To improve the situation, government may intervene to move closer to an efficient allocation of resources.
- However, even with good intentions of intervening, government has their limitations too and hence it can also make things worse.
- The government's ability to push forth its policies is also dependent on public acceptance.
- In addition, government intervention to ensure an efficient allocation of resources might introduce further inefficiencies due to high administrative cost, information gaps and time lags resulting from red tape and bureaucracies.
- Hence, the extent of government intervention should be limited to allow the price mechanism to play its role in resource allocation. Provision of goods by the government should be restricted to public goods while other market-based approaches such as taxes and subsidies should be used to tackle market failure arising from other sources.

Mark Scheme:

Knowledge, Understanding, Application and Analysis		
L3	<ul style="list-style-type: none"> A well-developed and balanced answer on whether rational decision-making by consumers, firms and government will always lead to an efficient allocation of resources. Answers shows adequate analysis of the rational decision-making made by the economic agents Well-developed explanation for 3 cases of how rational decision-making could lead to inefficient allocation of resources, with well-drawn diagrams. 	8 – 10
L2	<ul style="list-style-type: none"> An undeveloped answer on whether rational decision-making by consumers, firms and government will always lead to an efficient allocation of resources Applied correct conceptual framework and explained at least 2 cases of how rational decision-making could lead to inefficient allocation of resources with appropriate examples and diagrams. 	5 – 7
L1	<ul style="list-style-type: none"> Question requirements are interpreted inaccurately. Inappropriate economic concepts, theories and principles are used. Inaccurate economic analysis. Inappropriate or wrong diagrams are used. 	1 – 4
Evaluation		

E3	Evaluative judgment on whether rational decision-making by consumers, firms and government will always lead to an efficient allocation of resources are well-explained and supported by economic analysis.	4 – 5
E2	Attempt to explain evaluative comments is incomplete or inaccurate at times.	2 – 3
E1	Evaluative comments are unexplained or not supported by economic analysis.	1

Name: _____

Centre No. / Index No.: _____ / _____

Class: _____



PIONEER JUNIOR COLLEGE, SINGAPORE
JC2 PRELIMINARY EXAM 2018
Higher 2

ECONOMICS

9757/01

Paper 1

13 September 2018

2 hours 15 minutes

Additional Materials: Answer Paper

*PJC/9757/Paper 1/2018

READ THESE INSTRUCTIONS FIRST

Write your Centre number, index number and name on all the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** questions.

At the end of the examination, fasten all your work securely together.

Fasten your answers to each question **SEPARATELY**.

The number of marks is given in brackets [] at the end of each question or part question.

If there are part questions you did not attempt, please write the question number and part in the margins before you submit your answers. (*i.e. if did not complete 2b, indicate 2b in the margin of the answer script that you submit for question 2.*)

You are advised to spend several minutes reading the question and planning your answers before you begin writing.

You are reminded of the need for good English and clear presentation in your answers.

This document consists of **8** printed pages and **2** blank pages.



Pioneer Junior College



Ministry of Education

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Answer all questions.

Question 1: Disruption in the oil market and a new low price norm

Extract 1: Opec cartel and its Vienna deal

Ever since the collapse in crude prices in 2014, the big oil-producing countries have plotted a way to regain control and improve their battered finances. But agreeing which countries would bear the pain of the steepest production cuts had proved an insurmountable challenge. That barrier proved less formidable once prices stayed persistently low into 2016. With a recovery in the crude market nowhere in sight, finally one member after another fell into line at Vienna – and crucially Russia, a non-Opec producer, agreed to a cut of its own.

The first coordinated action by the Opec members in eight years has definitely set a new price outlook for the commodity. The longer-term impact on oil price will depend on the implementation of the accord, and discipline in sticking to the accord.

But few in the oil business expect a return to the prices which dominated the early part of the decade, including the most recent peak of \$114 two years ago. It is the emergence of shale drilling through fracking— where pumping a mixture of chemicals, water and sand into dense rock releases trapped oil – that has prevented Opec from controlling supply and demand in the way it did in the past.

Analysts say a general lack of global demand for oil is another downward pressure on prices. A history of Opec governments cheating to improve their revenues – by pumping more oil in contravention of production cuts – is also likely to undermine efforts to cut output, they say. Saudi Arabia, which has long been the main producer and most powerful political operator in the Opec cartel has dug deep into its reserves to make up the shortfall in its public finances following two years of low prices. It hoped to cripple the US frackers by holding down prices. Under that plan, it would then have ratcheted them up again with a well-timed production squeeze. But the US industry has not collapsed and Saudi Arabia has seen its budget ravaged as prices stayed low, forcing the government to cut subsidies and services. Russia, which is not an Opec member and produces about as much oil as Saudi Arabia, counts as a further reason for caution. It is supposed to announce production cuts next week but analysts are skeptical there will be a significant move to cut production when oil revenues make up most of the Russian government's income.

Enforcement of the Vienna deal is the key to preventing oil prices from falling again. But the interaction of supply and demand, most of it outside Opec's control, means that for the next couple of years, prices are probably going nowhere fast.

Source: *The Guardian*, 03 December 2016

Extract 2: Canada will tax carbon emissions to meet Paris climate agreement targets

Canada will impose a tax on carbon emissions starting in 2018 as part of its efforts to meet targets set by the Paris climate change accord. The provinces and territories can either put a direct tax on carbon emissions of at least \$10 Canadian (\$7.60) a ton or adopt a cap-and-trade system. "There is no hiding from climate change," Trudeau told the Commons. "It is real and it is everywhere. We cannot undo the last 10 years of inaction. What we can do is make a real and honest effort – today and every day – to protect the health of our environment, and with it, the health of all Canadians."

The pricing carbon pollution will give Canada a "significant advantage" in building a cleaner economy, compel businesses to develop innovative ways to reduce emissions, and create hundreds of thousands of clean technology jobs. However, it is believed that this new tax will damage the economy. The bottom line is that the economy, already hurting from a downturn in

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commodity prices, will be one of the hardest hit by a new federal carbon tax because of our trade-exposed resource industries."

Source: *The Guardian*, 3 Oct 2016

Figure 1: Oil price and Opec production



Source: U.S. Energy Information Administration

Extract 3: The new norm of low oil price

The current low oil price environment looks as if we have entered a new normal of lower oil prices that will impact not just oil and gas producers but also every nation, company, and person depending on it. This new normal is the result of the oil business being disrupted.

The U.S. shale revolution will be difficult to replicate, but traditional oil producers like Saudi Arabia are diversifying into shale-gas production and other forms of renewable energy so that they can diversify their energy mix and continue to export oil in spite of their soaring domestic demand for power. National oil companies and major oil and gas firms are also starting to change their ways. To compete with shale drillers, conventional oil players are improving their field productivity by focusing their resources on more easily recoverable reserves while integrating their technology, operations and organizations more closely.

At the other end of the spectrum, net oil importing nations are benefiting from a significant boost to their fiscal strength and current account balance. India's fiscal deficit has improved since the country saved nearly \$70 billion on importing crude and other petroleum products in 2015. The government was able to completely remove subsidy on petrol and diesel, and can now redeploy that \$70 billion into productive efforts. The true challenge will be how to support poor households when prices start rising again.

For net oil importers such as Singapore, when the oil price fell to below US\$50 a barrel, electricity tariffs in Singapore between July 2014 and March 2015 were reduced by 9.3 per cent. However, it was one of the worst years for the petrochemical industry, even though the industry had the benefit of lower input prices. Due to low global demand, the firms over-invested and could not run at capacity. Other indirect impact come through the weakening Malaysian ringgit, which has declined 12 per cent against the Sing dollar over the last year. The Malaysian economy is highly dependent on oil, and the oil price situation has caused its currency to depreciate against that of key trading

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partners. This affects Singapore businesses, especially in cases where their Malaysian counterparts fail to make timely payments.

One other interesting issue is what consistently affordable oil means for renewable energy. Many national policies and growth projections on increasing the use of renewables were made under the assumption of very expensive, depleting oil reserves. While this changes the value proposition of renewables and countries may be tempted to reassess their strategies, two trends continue to favor renewables: first, the continuous technological advancement and cost reduction in renewable sources such as solar and onshore wind keeps those sources of energy competitive; second, the commitments of both developed and developing countries to cut CO₂ emissions during the recent COP21 summit in Paris would require a balanced energy mix that includes renewables.

Source: Harvard Business Review (online), March 28 2016

Extract 4: Renewable energy – Lets do it right

The development and deployment of new technologies to deliver the world's energy needs from renewable sources are essential if we are to reduce our dependency on fossil fuels. To stop or reverse climate change and to provide the world's growing human population with the energy it needs, then hydro-, oceanic, wind and solar power must to be part of the mix.

But renewable energy is not the silver bullet that will help us overcome the barriers to building a cleaner, better and sustainable future. Regardless of how it is produced, electricity has to be transmitted from where it is generated to the homes, offices, factories, hospitals and schools where it is needed. This requires a substantial infrastructure of pylons and cables, which leave their mark on the landscape. This can have detrimental effects on wildlife habitats and migration routes.

Source: Convention on the Conservation of Migratory Species of Wild Animals, 22 October 2017

Questions

- (a) Referring to Figure 1, explain the relationship(s) between the trend in oil price and that of OPEC oil production from 2004 to 2016 [4]
- (b) Falling oil prices impacted countries differently.
 - (i) Explain the macroeconomic impact of falling oil prices on both oil importing and exporting countries. [4]
 - (ii) Explain whether a complete removal of subsidy on petrol and diesel will affect total expenditure of motorists in India. [4]
- (c) Discuss the extent to which OPEC is able to effectively cut production to raise price. [8]
- (d) The increased use of renewable energy helps to reduce carbon emission and improve economic efficiency in resource allocation.

Discuss whether government should continue to promote the use of renewable energy. [10]

[Total: 30]

Question 2: The impact of trade and automation on jobs

Extract 5: Trade in the balance

Economists tend to argue that trade does far more good than harm. Yet new research reveals that for many, the short-term costs and benefits are more finely balanced than textbooks assume.

David Autor of MIT, David Dorn of the University of Zurich and Gordon Hanson of the University of California, San Diego, provide convincing evidence that workers in the rich world suffered much more from the rise of China than economists thought was possible. In their most recent paper, published in January, they write that sudden exposure to foreign competition can depress wages and employment for at least a decade.

Trade is beneficial in all sorts of ways. It boosts variety: Americans can shop for Volvos and Subarus in addition to Fords. Yet its biggest boon, economists have argued, is that it makes countries richer. Trade creates larger markets, which allows for greater specialisation, lower costs and higher incomes.

Economists have long accepted that this overall boost to prosperity might not be evenly spread. Some research papers pointed out that trade between an economy in which labour was relatively scarce (like America) and one in which labour was relatively abundant (like China) could cause wages to fall in the place that was short of workers. Yet many were sceptical that such losses would crop up much in practice. Workers in industries affected by trade, they assumed, would find new jobs in other fields.

For a long time, they appeared to be right. In the decades following the second world war, rich countries mostly traded with each other, and workers prospered. Even after emerging economies began playing a larger role in global trade, in the 1980s, most research concluded that trade's effects on workers were benign. But China's subsequent incorporation into the global economy was of a different magnitude. From 1991 to 2013 its share of global exports of manufactured goods rocketed from 2.3% to 18.8%. For some categories of goods in America, Chinese import penetration – the share of domestic consumption met through Chinese imports – was near total.

The gain to China from this opening up has been enormous. Hundreds of millions of Chinese have moved out of poverty thanks to trade. A recent NBER working paper suggests Americans will benefit too: over the long run trade with China is projected to raise American incomes. In parts of the economy less susceptible to competition from cheap Chinese imports, the authors argue, firms profit from a larger global market and reduced supply costs, and should also gain – eventually – from the reallocation of labour away from shrinking manufacturing to more productive industries.

But those benefits are only visible after decades. In the short run, the same study found, America's gains from trade with China are extremely small. The heavy costs to those dependent on industries exposed to Chinese imports offset most of the benefits to consumers and to firms in less vulnerable industries. Competition from Chinese imports accounted for a significant of the decline in employment in manufacturing in America between 1990 and 2007.

The costs of Chinese trade seem to have been exacerbated by China's large current account surpluses: China's imports from other countries did not grow by nearly as much as its exports to other countries. China's trade with America was especially unbalanced. Between 1992 and 2008, trade with China accounted for 20-40% of America's massive current-account deficit; China imported fewer goods from America than vice versa.

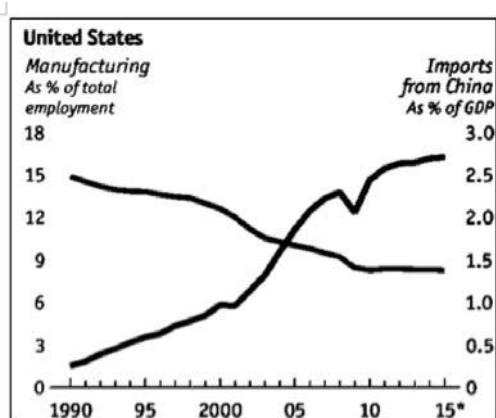


Figure 2

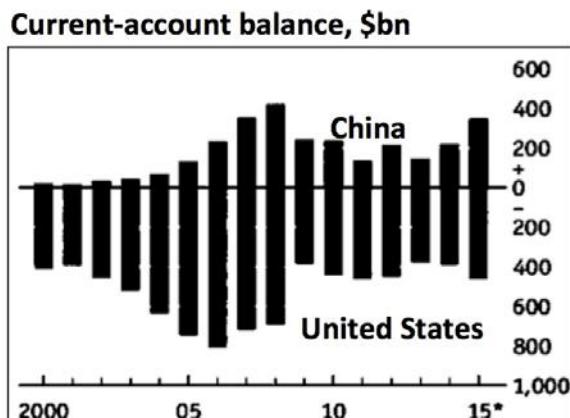


Figure 3

Source: *The Economist*, 06 Feb 2016

Extract 6: Most US manufacturing jobs lost to technology, not trade

A focal point of president-elect Donald Trump's campaign, that manufacturing jobs have left the US in droves as a result of bad trade deals, could be based on a faulty premise.

The US did indeed lose about 5.6m manufacturing jobs between 2000 and 2010. But according to a study by the Center for Business and Economic Research at Ball State University, 85 per cent of these jobs losses are actually attributable to technological change — largely automation — rather than international trade. The think-tank found that although there has been a steep decline in factory jobs, the manufacturing sector has become more productive and industrial output has been growing.

The Americans are producing more with fewer people. US factories have been achieving this by gradually replacing human labour with robots. Automation has transformed the American factory, rendering millions of low-skilled jobs redundant. Fast-spreading technologies like robotics and 3D printing will exacerbate this trend. The Boston Consulting Group has estimated that while "a human welder today earns around \$25 per hour, including benefits, the equivalent operating cost per hour for a robot is around \$8. The extra cost of maintaining a robotics system — installation, maintenance and the operating costs — should be amortised, according to the group, over a five-year period.

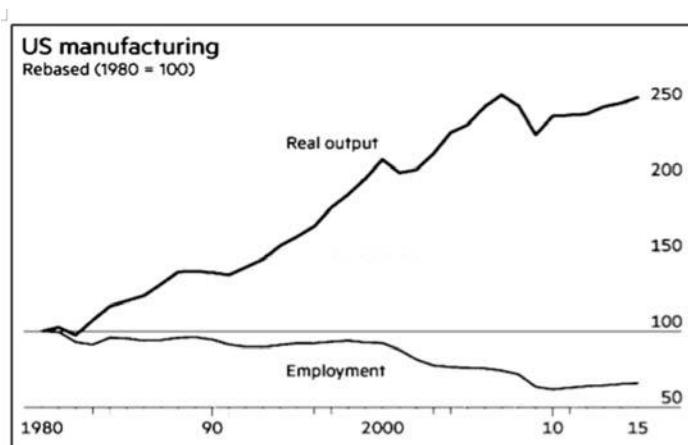


Figure 4

Nevertheless, trade with China and other countries did contribute to job losses to some extent. Research by the Ball State University found that 13 per cent of the overall job losses in

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manufacturing had resulted from trade. Another, more recent, MIT study estimated that rising Chinese imports from 1999 to 2011 cost up to 2.4m American jobs. Overall though, what this suggests is that one of the new administration's main policy aims, increasing trade protectionism, is unlikely to override the larger forces of automation and the transition to a digital economy.

Source: *FT.com*, December 03, 2016

Extract 7: In Japan, the rise of machines solves labor shortage

The rise of the machines in the workplace has U.S. and European experts predicting massive unemployment and tumbling wages. Not in Japan, where robots are welcomed by the Government as a way to handle the country's aging populace, shrinking workforce and public aversion to immigration. Japan is already a robotics powerhouse. The Government launched a five-year push to deepen the use of intelligent machines in manufacturing, supply chains, construction and health care, while expanding the robotics markets from ¥660 billion to ¥2.4 trillion by 2020. The labour shortage is such an acute issue that companies have no choice but to boost efficiency. By 2025, robots could shave 25 percent off of factory labour costs in Japan, says the consulting firm.

Source: *Bloomberg*, 14 September 2015

Extract 8: Automation the future of Singapore economy

With automation, Singapore's economy can maintain a Singaporean core in the face of a local workforce on the verge of shrinking, while not relying on foreign labour for growth. Automation provides crucial interim alleviation for the negative effects of the manpower crunch. Automation can also help to raise productivity in the long run. But, it is still crucial for workers to upgrade their skills to keep up with this automation in industries. Singaporean workers increasingly need to learn to be able to handle automated technology, so that automation can serve its purpose – to benefit productivity.

Source: *The Straits Times*, 30 April 2016

Extract 9: Singapore Budget 2016: Robots and start-ups - to transform Singapore Inc

Finance Minister Heng Swee Keat announced a slew of measures under the Industry Transformation Programme that will help companies and industries automate, innovate, expand overseas and procure financing. Some of these measures are:

- Support for automation: A new Automation Support Package will be introduced for a period of three years. It will cover (i) Grant support for the roll-out or scaling up of automation projects at up to 50 per cent of project cost, with a maximum grant of \$1 million (ii) Investment allowance of 100 per cent for automation equipment, in addition to the existing capital allowance.
- More robots at work: The National Robotics programme - more than \$450 million has been set aside in the next three years for the development and adoption of robots. These robots will be used in sectors such as healthcare, construction, manufacturing and logistics.
- Help workers 'adapt and grow': will help Singaporeans adapt to changing job demands and grow their skills. Separately, the Government will set up TechSkills Accelerator, a new skills development and job placement hub, to help workers in the information and communications technology sector learn new skills quickly.
- Deepening innovation capabilities: Up to \$4 billion under the Research, Innovation and Enterprise 2020 Plan will be directed to industry-research collaboration. The Government will provide a top-up of \$1.5 billion to the National Research Fund in 2016 to support these initiatives.

Source: *The Straits Times*, March 24 2016

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Questions:

- (a) (i) State the relationship between manufacturing employment (as a % of total employment) and imports from China (as a % of GDP). [1]
- (ii) Explain how changes in imports from China have contributed to the change in manufacturing employment. [3]
- (b) Compare the change in China's current balance between 2010 and 2015 with that of the US over the same period. [2]
- (c) Explain whether an increase in trade between China and the US would result in higher standard of living in the US. [6]
- (d) Assess the extent to which automation is the main cause of unemployment in an economy. [8]
- (e) Discuss the most appropriate policies that the US and Singapore should adopt to tackle unemployment. [10]

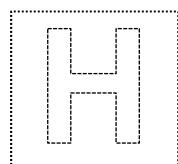
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- End of Paper -

Name: _____

Centre No. / Index No.: _____ / _____

Class: _____



PIONEER JUNIOR COLLEGE, SINGAPORE
JC2 PRELIMINARY EXAM 2018
Higher 2

ECONOMICS

9757/02

Paper 2 Essays

18 September 2018

Additional Materials: Answer Paper

2 hours 15 minutes

*PJC/9757/Paper 2/2018

READ THESE INSTRUCTIONS FIRST

Write your index number, name and class on all the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **three** questions in total, of which **one** must be from Section A, **one** from Section B and **one** from **either** Section A or Section B.

Answer each question on a fresh sheet of paper.

At the end of the examination, fasten your answers to each question SEPARATELY.

The number of marks is given in brackets [] at the end of each question or part question.

If there are part questions you did not attempt, please write the question number and part in the margins before you submit your answers. (*i.e. if did not complete 2b, indicate 2b in the margin of the answer script that you submit for question 2.*)

You are advised to spend several minutes reading the question and planning your answers before you begin writing.

You are reminded of the need for good English and clear presentation in your answers.

This document consists of **3** printed pages and **1** blank page.



Pioneer Junior College



Ministry of Education

Answer **three** questions in total.

Section A

One or two of your three chosen questions must be from this section.

- 1 Over the past decade, the average price of milk powder has risen about 120 per cent. Large milk powder companies such as Abbott and Nestle said it was due to research and development to improve formulas and rising costs. Aggressive advertisements have also led parents to choose 'premium' milk powder over standard milk powder. As milk powder is seen as a necessity for growth and development of infants in the early years, many have raised concerns over the large increase in price.
 - (a) Explain how the above-mentioned factors might have caused the price of milk powder to rise. [10]
 - (b) Discuss the measures a government can undertake to prevent prices of goods such as the milk powder from rising too high. [15]
- 2 Industries, from transport to retail, are being disrupted by new technologies and digital applications. Digital entrants are challenging the incumbents and threatening their bottom lines.
 - (a) Explain how advancement in technology may affect a firm's profits. [10]
 - (b) Discuss the extent to which the behaviour of firms is affected by contestability of market. [15]
- 3 There are various types of market failure. Market failure provides one of the major justification for government intervention in the economy.

Source: John Sloman, Economics, 6th Edition

 - (a) Explain how market dominance and immobility of factors of production in a country can lead to market failure. [10]
 - (b) Evaluate the policies currently used by the Singapore government to correct these types of market failure. [15]

3
Section B

One or two of your three chosen questions must be from this section.

- 4** Singapore had experienced annual deflation in a number of years, particularly during economic recessions in 2002, 1998 and 1986. However, the lower prices in 2015 and 2016 are due mostly to lower global crude oil prices and cheaper housing and utilities as well as transport costs.

Source: Adapted from Singapore Business Review 24 May 2016

- (a) Explain why deflation might be a concern to a government. [10]
- (b) Assess alternative policies that the Singapore government might adopt to manage the economy when faced with deflation. [15]
- 5** Singapore's economy expanded a faster-than-expected 1.8 per cent in the last quarter of 2016. Moving ahead, growth remains uncertain. Internally, Singapore has adopted a policy of restricting foreign labour and restructuring towards productivity-driven growth. Externally, higher US interest rate may lead to higher interest rates in Singapore.
- Source: Adapted from Channel Newsasia, 3 January 2017
- (a) Explain the possible conflicts in government macroeconomic objectives caused by a policy of restricting foreign labour and restructuring towards productivity-driven growth. [10]
- (b) Assess the impact of higher US interest rate on Singapore's macroeconomic performance. [15]
- 6** For Singapore to continue to benefit from international trade, the government needs to use trade-related economic policies, such as free trade agreements (FTAs) and policies to stimulate export industries.
- (a) Explain the determinants of the pattern of trade between Singapore and the rest of the world. [10]
- (b) Discuss the options available to the Singapore government to ensure that it would continue to benefit from international trade. [15]

- End of Paper -

2018 PJC JC2 Prelim Exam H2 Econs Paper 1

Question 1: Disruption in the oil market and a new low price norm

- (a) Referring to Figure 1, explain the relationship(s) between the trend in oil price and that of OPEC oil production from 2004 to 2016. [4]

Suggested answer:

Overall, there exist a positive relationship between oil price and OPEC oil production with the exception of from 2010 to early 2016 where there exist an inverse relationship between the two.

The positive relationship is due to the increase in demand which outweighs supply of oil from OPEC, resulting in an overall rise in both price and equilibrium quantity.

The negative relationship is due to OPEC increased supply of oil, holding demand unchanged, oil prices fall.

- (b) Falling oil prices impacted countries differently.

- (i) Explain the macroeconomic impact of falling oil prices on both oil importing and exporting countries. [4]

Suggested answer:

Many oil exporting countries such as Russia, a fall in oil prices reduces price of exports. Given that the price elasticity of oil is inelastic, it will lead to a less than proportionate rise in quantity demanded, leading to a fall in export revenue. Assuming import expenditure remaining unchanged, this reduces AD and through the multiplier effect will result in multiple fall in real GDP in the short run.

Oil importers such as India benefited from a falling oil price. As oil is a main source of energy, a fall in oil prices will reduce cost of production for most if not all industries. This shifts SRAS to the right, reducing GPL and increase real GDP.

- (ii) Explain whether a complete removal of subsidy on petrol and diesel will affect total expenditure of motorists in India. [4]

Suggested answer:

Total expenditure is obtained by taking price times quantity sold. Given that the price elasticity of demand for petrol and diesel is less than one, a complete removal of subsidy will result in a rise in cost of production, shifting supply curve to the left, resulting in an increase in price and a less than proportionate fall in quantity demanded, resulting in a rise in total expenditure.

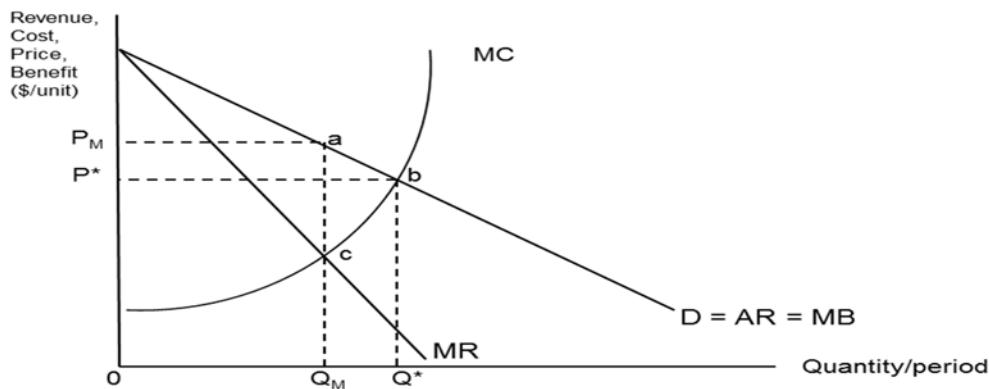
However, given that price of oil has been falling (a raw material needed to produce petrol and diesel), a complete removal of subsidy may not necessarily result in a rise in total expenditure if the amount of subsidy removed is less than the fall in price of petrol and diesel. Total expenditure of households may actually fall rather than rise.

- (c) Discuss the extent to which OPEC is able to effectively cut production to raise price. [8]

Suggested answer:

Price of oil is determined by the demand and supply of oil in the world market. The extent to which OPEC is able to effectively cut production to raise price will depend on its ability to control supply and demand for oil.

As OPEC members controls more than half of the world oil supply, it has a large market share and hence possess significant market power to cut production to increase price.



In the absence of OPEC, socially optimum output is at Q^* where $MC = AR(P)$. Profit-maximising cartel to maximize profit would restrict output to produce at Q_M where $MC = MR$ and charges the maximum possible price it can, P_M (indicated by DD curve).

Hence by restricting output to Q_M , OPEC is able to charge a higher price at P_M instead of P^* .

However, this require coordinated action by the Opec members and discipline in sticking to the agreed production quota. A history of Opec governments cheating to improve their revenues – by pumping more oil in contravention of production cuts – is likely to undermine efforts to cut output. Furthermore, OPEC must also be able to limit the production of oil due to the emergence of shale drilling through fracking in the US. Based on extract given, OPEC has not been able to do so. To effectively control supply, OPEC also needs the cooperation of Russia, which is not an Opec member but produces about as much oil as Saudi Arabia to cut production. However, this may not be forthcoming when oil revenues make up most of the Russian government's income.

Hence OPEC attempt to restrict output may be offset by an increase in production by OPEC members and non OPEC members. This may hence limit her ability to increase price.

On the demand side, continued low growth around the world, is holding back demand for oil. Hence despite a fall in production by OPEC, if the fall in demand exceeds that of fall in supply, equilibrium price will still fall.

Hence, as OPEC is unable to control world supply and demand for oil, it is to a small extent that it will be able to raise price through a cut of its own production.

- (d) The increased use of renewable energy helps to reduce carbon emission and improve economic efficiency in resource allocation.

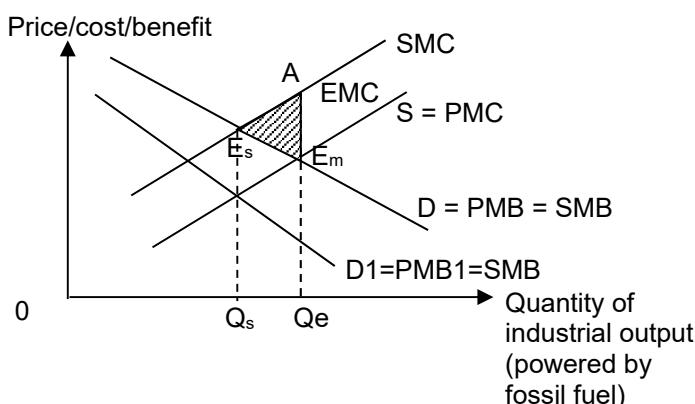
Discuss whether government should continue to promote the use of renewable energy. [10]

Suggested answer:

Government should promote the use of renewable energy as it can help the economy achieve the microeconomic aim of efficiency and macroeconomic aims of price stability and sustainable economic growth. However, whether it should continue to promote usage of renewable energy depends on the overall impact of renewable energy usage compared to the oil (fossil fuel) usage on the micro- and macro- economic aims in the new oil low price environment. It also depends on how long-lasting is the low oil price environment.

The market for industrial production can fail due to the existence of negative externalities. These negative externalities arise because of the usage of fossil fuel in industrial production. The negative costs can manifest in the form of reduced crop harvests due to global warming to the farmers (3rd party) who are not involved in the manufacturing process powered by fossil fuel. There is a divergence between PMC & SMC by the amount of EMC at Qe. Market equilibrium output is achieved at Qe (where PMC =PMB) while socially optimal output is at Qs (where SMC =SMB). Since Qe > Qs, there is overproduction of industrial output and deadweight loss is resulted. Market fails in the market of industrial output powered by fossil fuel.

With increased usage of renewable energy instead of fossil fuel to produce industrial goods, the amount of carbon emission will fall. Extent of EMC will fall, causing SMC to shift downwards towards PMC, reducing the problem of overproduction and deadweight loss.



There has been increased technological improvement in harvesting renewable energy and this has reduced cost, making renewable energy price more competitive to that of fossil fuel. This can enhance the competition in the market of energy on the whole, reducing price of all forms of energy. With lower energy prices, lower income households will be able to afford energy with less/ no government subsidies. This reduced the need for government to subsidize the use of energy, allowing the government resources to be better spent elsewhere. In addition, with lower energy cost, firms will find it more profitable to produce and AS curve will shift downwards, increasing real income, employment and reducing general price level. At the same time, with increased usage of renewable energy, the country can better cut CO2 emission level to meet the commitment made to COP21 summit in Paris. Economic growth in the country will be more sustainable as increased output produced will bring along with it less significant economic problems on the environment particularly for the future. This can increase the standard of living for the current and future citizens.

However, increased usage of renewable energy requires increased infrastructural for the transmission of this clean energy from its sources to the factories and homes. The building of

these infrastructural requires the massive clearing of land and destruction of wildlife habitats. The clearing of arable land could reduce the potential harvest for farmers (3rd parties). Economic growth will also be unsustainable as the output are made at the expense of natural habitat of the future generation. The use of the land for renewable energy could also be better used for residential or commercial purposes.

However, the damage made on the environment from continued release of CO₂ gases into the atmosphere through the use of fossil fuel should be more significant than the damage caused from the making of initial infrastructural for transmission of renewable energy. Thus, the use of renewable energy should still be promoted as use of renewable energy is still at its infancy stage and the environmental cost of fossil fuel outweighs that from the use of renewable energy by a large margin currently.

Government should not continue to promote the use of renewable energy since the price of fossil fuel has reduced significantly with the reduced market power of OPEC cartel and the emergence of shale drilling. With the norm of fossil fuel prices being low, there is little incentive for profit-orientated firms to switch from fossil fuel to being powered by renewable energy. In addition, fossil fuel producers are also improving their fields productivity, making price of fossil fuel cheaper overtime. Thus, economy can enjoy non-inflationary growth in the future without the need to switch to renewable energy. Thus, government need not continue to encourage the use of renewable energy towards this macroeconomic aim in the short term.

However, it all depends on the how long the price of fossil fuel is likely to last. In event there are new developments in the current low oil price environment, fossil fuel (oil) price may increase and renewable energy may be in favour again. It may be too late to start encouraging the use of renewable energy as it takes a long time for the development and subsequently adoption of renewable energy for consumers and industries. Thus, in the long term, government should still encourage the use of renewable energy, albeit at a lower priority.

Government should encourage the use of renewable energy to a socially optimal level for the economy to bring about micro- and macro- economic aims. However, whether there is a need continue encouraging the use of renewable energy depends on the sustainability of low oil (fossil fuel) price environment as well as the overall net assessment of increased renewable usage on the overall aims of the government.

Question 2: The impact of trade and automation on jobs

- (a) (i)** State the relationship between manufacturing employment (as a % of total employment) and imports from China (as a % of GDP). [1]

Suggested answer:

There is an **inverse relationship** between manufacturing employment (as a % of total employment) and imports from China (as a % of GDP).

- (ii)** Explain how changes in imports from China have contributed to the change in manufacturing employment. [3]

Suggested answer:

As China has an abundance of low cost labour, it has a comparative advantage (1) in the production of low cost, labour intensive consumption goods and this has resulted in the replacement of US domestic production of these goods with imported goods from China. This has caused a fall in the manufacturing employment in the US as imports from China increases. (2) (As show in Figure 1)

- (b)** Compare the change in China's current balance between 2010 and 2015 with that of the US over the same period. [2]

Suggested answer:

From 2010 to 2015,

- 1) Between 2010 to 2015, China Current accounts were always in surplus whereas US Current accounts were always in deficit. (1)
- 2) China Current accounts surplus has increased while US Current accounts deficit was relatively constant / has increased slightly. (1)

- (c)** Explain whether an increase in trade between China and the US would result in higher standard of living in the US. [6]

Suggested answer:

With an increase in trade between China and USA there would be an increase in imports and exports between the two countries. US firms are able to enlarge its global market and increase its total revenue and hence profits by exporting to China. With an increase exports, there would be an increase in AD and via the multiplier effect, there would be a larger increase in real output and hence real national income (NY). With an increase in real NY, there would be an increase in income per capita (assuming that the rate of population increase in USA is slower than the rate of increase in real NY) and an increase in purchasing power and hence an increase in SOL.

And with an increase in export and real output, there would be an increase in demand for labour. This would result in an increase in the wage rate for labour. Income of workers would increase and hence purchasing power increase and hence increasing the SOL of US workers.

An increase in trade would also imply increase competition and hence increased variety of goods and services at lower prices available for consumers. This would increase consumer surplus and hence consumer welfare and an increase in SOL for USA.

However, on the other hand, with increased trade and increased competition, firms which are not competitive may be driven out of the market. As shown in Figure 3, the US is facing a trade deficit with China which imply that the US is importing more from China than its exports to China. This may imply that the US does not have a comparative advantage in the production of certain goods and services, such as labour intensive goods. It may result in the fall in demand for the US goods and a fall in

demand for labour the US. This may worsen the SOL in the US. And if these lower skilled workers are unable to find jobs in other sectors of the economy due to a lack of the necessary skills, it may result in income inequality among the workers who possess the necessary skills and those who do not.

In conclusion, whether an increase in trade between China and USA would result in higher SOL in the USA would depend on how it could contribute to the economic growth of USA and its possible impact on employment opportunities for consumers in the USA.

- (d) Assess the extent to which automation is the main cause of unemployment in an economy. [8]

Suggested answer:

Automation is the main cause of unemployment in the economy.

Automation of industries has resulted in the replacement of human labour with machinery and robots. This has not only resulted in the retrenchment of the excess workers, it has also resulted in a decrease in demand for labour. Hence, causing unemployment to increase. This is shown in Figure 2 where there was an increase in output but there is a fall in employment in the US manufacturing sector.

Furthermore, automation results in structural unemployment. Due to the adoption of new technology, high-skill workers are highly demanded. Those who have been made redundant do not have the skills and knowledge that match the requirements of jobs available. Hence, they become structurally unemployed.

But automation can also help to boost employment. With automation, for example, has enabled US firms to be more productive and has increased industrial output. With the increase in productivity, it would result in an increase in real GDP and national income and hence purchasing power. This would result in an increase in consumption and an increase in demand for goods and services and more goods and services would need to be produced. This would result in an increase in investment and the demand for labour, especially in the services sector to service the increase demand for goods and services. In addition, with automation, there would be an increase in demand for higher skilled workers to enable the automation and to service and maintain the machinery. Hence, automation may result in the redundancy of the lower skilled workers but it would also create employment opportunities for the higher skilled workers. This would result in an increase in the type of unemployment, that is, structural unemployment rather than an overall increase in unemployment rate.

On the other hand, automation has been seen as a solution to countries such as Japan and Singapore to resolving the problem of an aging population and a shrinking workforce and its dependence on foreign labour and at the same time as a means to increase its productivity and the competitiveness of its economy.

In conclusion, the extent to which automation is the main cause of unemployment would depend on the nature / condition of the economy. To some countries where the majority of workers are employed in the manufacturing sectors, automation would have a larger impact on unemployment. To other countries such as Japan and Singapore which are facing a shortage of labour, automation is seen as a means to increase productivity and hence competitiveness. (**Evaluation**) Also, it should be noted that although automation may reduce certain jobs in the manufacturing sector, it may also increase job opportunities as the need for skilled workers increases. (**Evaluation**)

- (e) Discuss the most appropriate policies that the US and Singapore should adopt to tackle unemployment. [10]

Suggested answer:

US faces problem of unemployment due to the opening up of its economy to international trade as well as automation. Inflows of cheap imports into the US market and automation have both resulted in loss of jobs in the US manufacturing sector and structural unemployment. Similarly for Singapore, the rise in automation can lead to job loss in the manufacturing sector and structural unemployment. As such, the governments needs to identify the appropriate policies to deal with the root cause of unemployment. These can be demand side and supply side policies to create new jobs and increase the demand for labour and to upgrade the skills of workers to meet the needs of the automated and capital intensive industries for higher skilled workers as both countries develop new niches of comparative advantage to remain competitive.

With the opening up of the economies for international trade, the US and losses its comparative advantage and losses its competitiveness in the production of certain goods and services. As domestic consumption were being replaced with imports, this has resulted in the closure of domestic industries and a fall in demand for labour and an increase of unemployment as workers are being retrenched. As stated in Extract 3, MIT study estimated that rising Chinese imports from 1999 to 2011 cost up to 2.4 million American jobs.

With the losses of jobs due to imports, there is a need for government to adopt demand side policy such as fiscal policy (FP) to attract new investment so as to create new job opportunities and increase the demand for labour. This can be done via a reduction in corporate tax rate. With a fall in corporate tax rate, after tax profits of firms would increase and this would be more attractive for firms to increase investment. With an increase in investment, there would be an increase in aggregate demand (AD) and via the multiplier effect, real output and real national income (NY) would increase by a greater extent. In order to produce the increase in real output, there would be an increased in demand for labour. Hence, this would help to resolve the demand deficit unemployment problem.

However, depending on the type of investment that the country may attract, the increase in job opportunities may not be significant. This is especially so if the investment is of a capital intensive nature and if the firms continue to replacing human labour with robots (as stated in Extract 2). However, more job opportunities can be created if the investment is in the tertiary service oriented industries such as the financial and healthcare industries where the personal human services are still required.

Hence, merely adopting FP to encourage investment my not be sufficient to reduce unemployment, especially structural unemployment that resulted from automation.

(Note: Candidates can also discuss the use of protectionistic measures such as tariff to reduce the consumption of imports and increase domestic production to save domestic jobs)

To resolve the problem of structural unemployment resulting from automation with the replacement of human labour with robots (Extract 2) it would be appropriate for the government to adopt supply side policies to upgrade the skills of the workers.

Workers being retrenched due to automation may not have the necessary skills to work in the new industries where different set or higher level of skills is required. These would require the intervention of both the governments of the US and Singapore to provide incentive to encourage or persuade the firms or workers to continuously upgrade their skills to meet the requirement of the new industries.

In the case of Singapore, to encourage the development of new comparative advantages with a knowledge based economy, a host of incentive packages have been implemented to help firms to automate, innovate and expand overseas and at the same time, upgrading the skills of workers. These include the Automation Support Package and the National Robotics

Programme as stated in Extract 5 as well as the SkillsFuture where every Singaporean above the age of 21 years old are entitled to a credit of S\$500 for training purposes. With the appropriate supply side policies, the economy would be able to develop new comparative advantages and it would also increase the occupational mobility of workers as workers upgrade or acquire new skills to enable them to make a career switch and remain gainfully employed in the highly automated or capital intensive industries.

However, supply side policies are basically a long term policies and which require strong commitment and financial support from the government. Countries such as Singapore which have the necessary financial resources with its budget surpluses would face lesser headwinds to provide incentives for workers to upgrade their skills. The success of these policies would also very much dependent on the workers educational level and attitude towards training and re-training.

Thus to resolve the problem of structural unemployment caused by the replacement of workers due to automation, supply side policies are appropriate policies that the government should adopt.

In conclusion, with increased competition as a result of international trade as well as increasing automation by firms, both the US and Singapore governments needs to adopt a mixture of complementary policies to encourage investment in order to create more jobs opportunities and at the same time, help workers upgrade their skills to meet the needs of the new industries and to remain employable.

PJC 2018 H2 P2 Question 1:

Over the past decade, the average price of milk powder has risen about 120 per cent. Large milk powder companies such as Abbott and Nestle said it was due to research and development to improve formulas and rising costs. Aggressive advertisements have also led parents to choose 'premium' milk powder over standard milk powder. As milk powder is seen as a necessity for growth and development of infants in the early years, many have raised concerns over the large increase in price.

- Explain how the above-mentioned factors might have caused price of milk powder to rise in Singapore. [10]
- Discuss the measures government can undertake to prevent prices of goods such as the milk powder from rising too high. [15]

Part (a)

As mentioned in the preamble, factors such as market dominance of large firms, demand and supply factors have caused prices of milk powder to rise by a large extent.

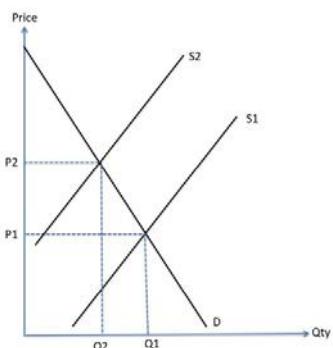
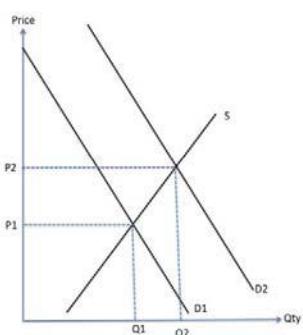


Fig 1: Fall in SS

The rise in cost of production would have caused the price of milk powder to rise over the past decade. Due to improved formulas and rising cost possibly due to labor and ingredient cost, the cost of producing milk powder would have risen. As shown in the diagram, as cost in the production of milk powder increases, firms are less willing and able to produce milk powder. Supply curve shift left from S1 to S2. Given that there are only a few substitutes for different brands of milk powder and coupled with the fact that it is a necessity for growth and development of infants in the early years, demand for milk powder is price inelastic. As such, a fall in SS would result in price to rise by large extent and quantity to fall by small extent. Thus prices of milk powder have increased over the past decade.



Furthermore, due to aggressive advertisements, parents have a change in taste and preference towards the 'premium' milk powder over standard milk powder. As such, there is a rise in demand for 'premium' milk powder from companies such as Abbott and Nestle. As shown in the diagram, as more parents switch from standard milk powder to 'premium' milk powder, demand for milk powder would rise, shifting demand from DD to DD2. At the original price P1, a shortage was created as Qd was greater than Qs. This therefore creates an upward pressure on the market price. Thus prices rose from P1 to P2 in response to the rise in demand for milk powder. As more parents change their taste and preferences for 'premium' milk powder, firms are also more enticed to produce 'premium' range of milk powder so as to profit from the changing trends. As such, the rising demand for 'premium' milk powder have resulted in an overall rise price of milk powder in Singapore.

Fig 2: Rise in DD

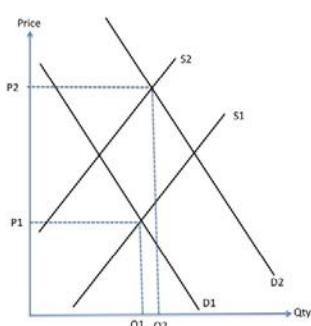
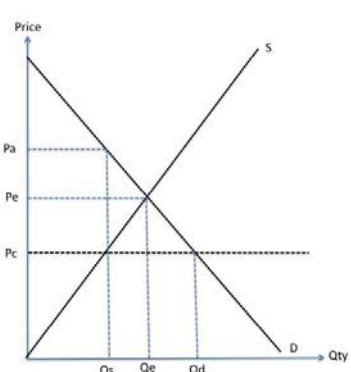


Fig 3: Combine effect of DD and SS

In conclusion, factors such as market power of large firms, nature of the good, rise in demand and rise in cost of production have resulted in the price of milk powder to rose by large extent over the past decade.

Part (b)

As prices of milk powder rose by 120 percent over the past decade, it is a concern to consumers as it affects the cost of living for parents with young children and infants. As such, the government can intervene with several measures such as price ceiling, introduction of new competitors in the market and increase information in the market to reduce the effects of aggressive advertisement for 'premium' milk powder.



Firstly, the Singapore government can enforce price ceiling over the price of milk powder. As the market price P_e is deemed too high, the Singapore government can impose a price ceiling P_c . By doing so, price of milk powder would only be allowed to be sold at a maximum of P_c which is lower than the market price. Thus, regardless of the factors influencing the price of milk powder in the market, price of milk powder will not exceed P_c .

Fig 4: Effect of price ceiling on market price.

However, a policy of price ceiling would create the problem of shortage as it is set below the market clearing price of P_e . As shown in the diagram above, at P_c , firms are only willing and able to produce at Q_s while consumers are willing to and able to buy at Q_d . Since $Q_d > Q_s$, there is a shortage. This would mean that not all consumers would be able to purchase milk powder despite the efforts in government to reduce price through a policy of price ceiling.

Furthermore, as price mechanism would cease to work in distribution of such a good to consumers, the government would have to step in to ration milk powder based on non-price rationing schemes like coupon, drawing lots or first-come-first serve basis. This is to prevent the problem of civil unrest arising from a shortage of an essential good such as milk powder. However, this not only creates inefficiency in allocation of such a good, it also wastes resources as government officials have to be deployed to the rationing of such a good. In addition, whether the price of milk powder can be kept at P_c would depend on whether the government would be able to prevent the emergence of black market. The black market might emerge to fulfill the needs of people who do not get the goods. At output Q_s , consumers are willing to pay a maximum price of P_a , thus the maximum black market price will rise to P_a , defeating the original intention of preventing price of milk powder from rising to high.

Lastly, as milk powder are produced by foreign firms and imported into the country, a policy of price ceiling would be undesirable for as it limits the revenue and thus profits that they can earn from the sales of milk powder in Singapore. Hence, firms may deem Singapore market as unprofitable and thus withdrew the sales of milk powder in Singapore. This may worsen the original problem as when more firms exit the Singapore market, market supply of milk powder would fall and thus further raising the price of milk powder in Singapore. In addition, consumers in Singapore would be left with less variety and choices to choose from, further reducing their consumer welfare.

As such, given the limitations and undesirable consequences, price ceiling may not be a good measure for Singapore government to undertake and other policies such as an introduction of more competitors into the milk powder market.

The Singapore government can encourage more firms to produce and sell milk powder in Singapore. As such, market supply for milk powder would rise and thus reduce the market price of milk powder. For example, a

made-in-Singapore formula, Einmilk was introduced into the Singapore market for milk powder in light of the rise in price of milk powder. NTUC Fairprice supermarket is also exploring ways to bring in different brands of milk powder as well as introducing their own house-brand milk powder.

Furthermore, introduction of new competitors into the market would also increase the number of substitutes in the market for milk powder. With reference to Fig 3 in part a), demand for 'premium' milk powder would fall as more consumers would switch over to substitutes such as Einmilk. Demand for 'premium' milk powder would also become more price elastic due to the rise in number of substitutes. As such, market price would fall as existing firms lose their market power to new competitors. Thus, introduction of new competitors into the milk powder market through a relaxation of rules and regulation can help to prevent prices of milk powder from rising by large extent.

However, whether the introduction of new competitors into the milk powder market may successfully reduce market price of milk powder depends on consumer's perception.

Despite having more competitors in the milk powder market, consumers may not switch over to these new brands due to brand loyalty and the belief in having 'premium' quality milk powder for their infants so as to enhance their future development. Without better information, parents may rely on claims made by producers of milk powder, or be misled into using price as a proxy for the quality of the product. As such, demand for 'premium' milk powder may not change by large extent as consumers would still stick to those brands thinking that the higher priced milk powder are of better quality and are more superior compared to the cheaper and new milk powder brands such as Einmilk.

Furthermore, if firms continue with the aggressive advertisement and marketing tactics, consumers may continue to demand for 'premium' milk powder, perceiving other brands of standard milk powder as inferior quality even though there might not be any actual difference in quality of milk powder between the different brands. As such, the problem lies in the presence asymmetric information between the producers of milk powder and parents with infants as such advertisement may have excessively play up the benefits of the good without actual real benefits.

Thus despite having cheaper alternatives in the market for milk powder, market price of milk powder may not have lowered and consumers continue to suffer with high prices of milk powder. Hence, there is a need for government to intervene with other policies to ensure that consumers aren't exploited due to asymmetric information between the producers of milk powder and parents with infants.

To curb the problem of imperfect information between producers of milk powder and parents with infants, the Singapore government can implement policies such as education campaigns and screening policies to validate the claims made by producers of milk powder. The Singapore government can work with HPB to launch education campaigns to educate parents on the nutrition needs of infants so that parents are able to make an informed choice rather than to rely on claims of producers. Thus this would reduce the effect of brand loyalty that consumers have on 'premium' milk powder and would thus be more receptive of cheaper alternatives available in the market.

Furthermore, the government would require producers of 'premium' milk powder to validate the claims made so that the under-informed party (consumers) can get more information about the actual quality of the 'premium' milk powder. Thus, consumers are able to make a more informed choice on the different brands of milk powder. As such, demand for 'premium' milk powder may fall and become more price elastic thus reduce price of milk powder in the market. In addition, the positive CED values between standard milk powder and 'premium' milk powder may become greater as more consumers would perceive them as close substitutes. Thus 'premium' milk powder would be subjected to greater competition as a fall in price of standard milk powder would result in a more than proportionate fall in DD for 'premium' milk powder. Thus, this prevents prices of milk powder from rising too high.

However, such a policy would take time to see its effects as it takes time for government agencies to validate claims made by producers of milk powder. Consumers may also take time to change their perspectives of 'premium' brand milk powder as it is often difficult to change their perspectives given the importance of milk powder on the growth and development of their child. Thus, prices are likely to remain high in the short term

and would only start to decrease in the future when the effects of the policies have kicked in.

In conclusion, there are several measures that the government can undertake to prevent prices of milk powder from rising too high. Given the fact that Singapore imports majority of the food products including milk powder, it is not possible to implement a policy of price ceiling as the unintended consequences are far too undesirable to manage. Thus, the policy of introducing new competitors into the market of milk powder and the policy of education campaigns and screening are much more appropriate as the root cause of the problem lies in the lack of cheaper substitutes and imperfect information between producer of milk powder and parents with infants.

PJC 2018 H2 P2 Question 2:

Industries, from transport to retail, are being disrupted by new technologies and digital applications. Digital entrants are challenging the incumbents and threatening their bottom lines.

- a) Explain how advancement in technology may affect a firm's profits. [10]
- b) Discuss the extent to which the behaviour of firms is affected by contestability of market. [15]

Suggested answers:

A firm's total profit is derived from total revenue minus total cost. With advancement in technology, it can affect both total revenue and total costs.

Advancement in technology like that of digital applications can disrupt the businesses and reduce their total revenue. Advancement in technology have allowed digital applications like that of rail-hailing booking applications of Uber to be developed. It has reduced the demand of traditional taxi service of Comfort Delgro. At the same time, there are more substitutes available for Comfort Delgro's taxi and its demand will become more price elastic. Thus, Comfort Delgro will see its AR and MR curves shifting downwards and becoming flatter. Since $TR = P \times Q$, a fall in DD will reduce both P and Q and TR will fall.

[students can insert a dd/ ss or cost/ revenue diagram showing the effect on TR.]

As a result, its total revenue will decrease from advancement of technology that disrupt business with digital technologies.

On the other hand, technological advancement can also make a firm's product more differentiated and increases the firm's total revenue. With the development of technology eg with the development of internet and mobile devices, small firms can tap on more low cost avenues to market their products and reach out to their customers. Product information and review can be shared via social media or blog post. Large firms can tap on improvement in technology to conduct R & D on their product, allowing them to design more sophisticated products that improve on consumer satisfaction and stand out from its competitors. These strategies made with advancement in technology can increase demand of the firm's product. At the same time, PED and CED can also be reduced as the firm's product's perceived and/or actual differences are emphasized. With the firm's demand curve shifted outward and made steeper, the firm will see an increase in total revenue. In addition, the firm can increase the price of its product and the quantity demanded of its product will fall less than proportionately, increasing the firm's total revenue. Even if the price of the substitute product were to fall, the fall in demand for the firm that has tapped on technology to brand its product will be by a small extent. Thus, total revenue can increase if firm position itself well to ride on the advancement in technology by differentiating itself better from its rivals.

Technological advancement can reduce costs of firm. Technology improvement has increases computer processing speed and storage capability eg cloud storage, allowing firm to manage larger amount of information at a much reduced costs. Improvements in communication made possible by the internet and devices like laptops and smart phones has streamline the communication processes firm has within and outside with suppliers and customers. The ability to tap on technology to mass produce has also allow firms to enjoy economies of scale. These can increase its efficiency in work processes and reduce units cost. In addition, technological advancement in the form of automation has reduced the need for labour in manufacturing process; significantly reducing costs for many manufacturing and logistic firms. The firm will see a downward shift of its AC and MC curves.

The firm's supply rise at each output level. Thus, technological advancement can reduce costs for firms in many aspects for firms of all sizes and industries.

For a firm that did not anticipate the disruptive forces of advancement in technology and did not make use of technology to reduce its costs, its total profits will likely fall. On the other hand, a firm that utilize technological advancement to increase its reach to its customers and differentiate its product as well as reduce its production cost will likely benefit significantly from the advancement in technology with an increase in total profits.

b) Discuss the extent to which the behaviour of firms is affected by contestability of market. [15]

Suggested answers:

Contestable markets are markets dominated by one or few firms which are operating at competitive price and output levels due to the threat of potential competition/ potential entry of new firms. Contestability of market refers to the ease in which new firms can enter and exit the market. Such a market has no/low sunk costs to allow for the ease of exit. Sunk costs are costs that cannot be recovered when firm leave the industry. Behaviour of firms refers to its pricing and non-pricing behaviour. Non-price behaviour will include marketing and research decisions. It is too a small extent that behavior of firm is affected by contestability of market as there are many other factors affecting the behavior of firms. The factors include actions of competitors and government regulation.

Behaviour of firms is affected by contestability of market. With low degree of contestability, monopolistic or oligopolistic firm would produce at the profit-maximising output where $MR=MC$. With high barriers to entry, monopolistic or oligopolistic firm will be able to earn supernormal in the long run. Degree of contestability of market has increased with digital applications and technologies lowering market entry barriers across many industries. For example, in the market of retail, non-traditional retailers have entered the retail markets through e-commerce. The taxi service digital applications that makes it easier to match the demand and supply of taxi services allows Uber to enter the oligopolistic market of ride-hailing. Even in traditionally high barrier to entry banking industry, digital technologies have allowed firm like Haier, which is traditionally a manufacturing firm, to offer convenient finance and payment services through its online platform. The increased market contestability has changed the way firms behave. Even though there might not be increased competition yet, the threat of firms entering the tradition industries will change the way firms behave.

With high degree of contestability, monopolistic or oligopolistic firm may limit its pricing below profit maximizing level in order to ensure that other firms are not enticed by the large supernormal profits and enter the industry. Instead, it will usually set a competitive price close to / at average cost such that it obtains only normal profit. i.e where $AR=AC$. However, if the digital entrant's AC is way above that of the incumbent firm, then the incumbent firm need not reduce its price all the way to below average cost. When competitors do enter their market, monopolists may take actions such as dumping or predatory pricing to drive competitors out of business despite having to make losses and may even attempt a hostile takeover of a competitor.

On non-price behaviour, incumbent firm may choose to make their product competitive and ensure the firm is efficient before any new competitor enter the market. It may do so through marketing strategies to create consumer loyalty before new entrants come their markets. At the same time, it may invest in R & D to streamline its production and improve their product. This will reduce their unit cost and make their demand price and cross inelastic. In face of potential competition, the incumbent firm will be better able to compete via price when it has kept its cost of production at efficient level. With a product that is unique, the incumbent's demand will fall by less than proportionately when new digital entrant enters the market. As for oligopolistic incumbent, it may choose to collude with another incumbent in the same industry to increase its market share so as to within any increased competition from potential entrant.

For firms in perfect competition and monopolistic competition market, they do not face the threat of contestability as the analysis of contestable markets is not designed for markets with large number of competitors.

Behaviour of firms in monopoly and oligopolistic industries are affected by contestability of market while that of firms in perfect competition and monopolistic competition are not.

Beyond contestability of market, actions of competitor within the same industry can also affect the behavior of a firm. In an oligopoly, a firm's price and non-price behaviour is influenced by the actions of its competitors to a large extent due to mutual interdependence. Increasing price will cause many of its customers to switch to rival firm's products since rival firm will keep prices at current levels. Should the firm lower price, the rival would also decrease its price so as not to lose market share. This would lead to a price war and thus quantity demanded of the firm's product would increase less than proportionately than the decrease in price. Hence there will be price rigidity in the market and the pricing behaviour of the oligopolistic firm is highly dependent on the actions of its competitors. This is especially true when the product involved is homogenous eg oil.

An oligopolistic firm's non-price competition behaviour is affected by the actions of its competitors to a large extent as well. Strategies include product differentiation, where firms aim to emphasize the differences of their products from the competitors'. This will help to build consumer loyalty to that particular firm and reduce the cross elasticity of demand of the firm's product with respect to its competitors. They conduct promotion campaigns and advertising activities and may even invest in research and development in order to develop improved products to gain a larger market share. Apple engages in extensive advertising and R&D to constantly develop and launch new versions of the iPhone to compete in the smartphone industry to gain market share over Samsung and XiaoMi. As Samsung and XiaoMi are continually developing new technology and improving their smartphones, the behaviour of Apple in developing the iPhone 5S with fingerprint recognition and high quality camera and video editing software in response to Samsung's face and eye recognition and waterproof smartphones highlight that in an oligopoly, a firm's non price behaviour is affected by the actions of its competitors.

As for monopoly, being the sole producer, it has no competitor in the market and will be more affected by potential rivals. Firms in monopolistically competitive market seldom take into consideration their competitors actions as each firm has insignificant market power and sells differentiated products. It is too difficult to track the changes in prices and advertising strategies of all the other firms in the monopolistic competitive market. Action of competitors can also affect the behavior of firm. This is evidenced in the case of oligopolistic firms.

The government can also play a part in affecting the behaviour of firms. For a natural monopoly, the government influences the firm's behaviour. A natural monopoly would have no competitors, and are often regulated by the government. Thus decisions made by the monopolist are usually within the limits set by the government to maximize their own profits. One example would be the provision of public utilities like Singapore Power or Public Utilities Board providing piped water to homes in Singapore where prices must be approved by the relevant authorities. To achieve allocative efficiency, government may also imposing MC-pricing to ensure that that monopolist set price and output level that can allow maximum welfare to be achieved in the society. Hence government regulation can also affect a firm's behaviour.

Behaviour of firm is affected by contestability of market to a small extent as there are many other factors that can affect the behavior of firms. Some of these factor include competitors' actions and government regulation. However, firms of larger scale of production in the oligopoly and monopoly market structure are more affected by contestability of market with rising trend of digital disruption. Smaller firms in monopolistic competition and perfect competition are not affected by contestability of market. But they can be affected by other factors. Market with higher sunk costs will also face less contestability and thus contestability of such market will affect the behavior of firms by a smaller extent.

PJC 2018 H2 P2 Question 3:

There are various types of market failure. Market failure provides one of the major justification for government intervention in the economy.

Source: John Sloman, Economics, 6th Edition

a. Explain how market dominance and immobility of factors of production in a country can lead to market failure. [10]

b. Evaluate the policies currently used by the Singapore government to correct these types of market failure. [15]

a) Explain how market dominance and immobility of factors of production in a country can lead to market failure. [10]

Market failure occurs when the free market fails to achieve allocative efficiency. It fails when resources are not perfectly mobile, or when firms have market power.

Immobility of factors of production may lead to allocative inefficiency and hence market failure. Factors of production such as labour may be geographically or occupationally immobile.

Geographical immobility may occur because of the high cost of relocation. This prevents labour from moving from areas with high unemployment to areas facing a shortage of labour. As such, workers remained unemployed. The economy is producing within the PPC, i.e. there is unemployment. This leads to wastage of resources (productive inefficiency), and less resources are thus channelled into the production of goods and services that will lead to greater societal welfare. Productive inefficiency implies allocative inefficiency, with the former a prerequisite for the latter.

Occupational immobility occurs because of a mismatch between workers' skills and job requirements. Workers current specific job skill may not be able to respond easily to changing demand conditions. For example, retrenched workers from the electronics manufacturing industry in Singapore do not have the necessary skills required for them to find jobs in the growing infocomm sector (structural unemployment). Labour may thus be put to inefficient use, instead of being allocated into markets where the labour is needed most. There is thus inefficient allocation of resources, with too little resources being channelled into the infocomm sector in this example. Thus immobility of factors of production causes market to fail.

Market dominance may lead to allocative inefficiency and hence market failure.

Market dominance due to high barriers to entry allows existing firm to have a large market share and hence possess significant market power to set price. The firm faces a downward-sloping demand curve.

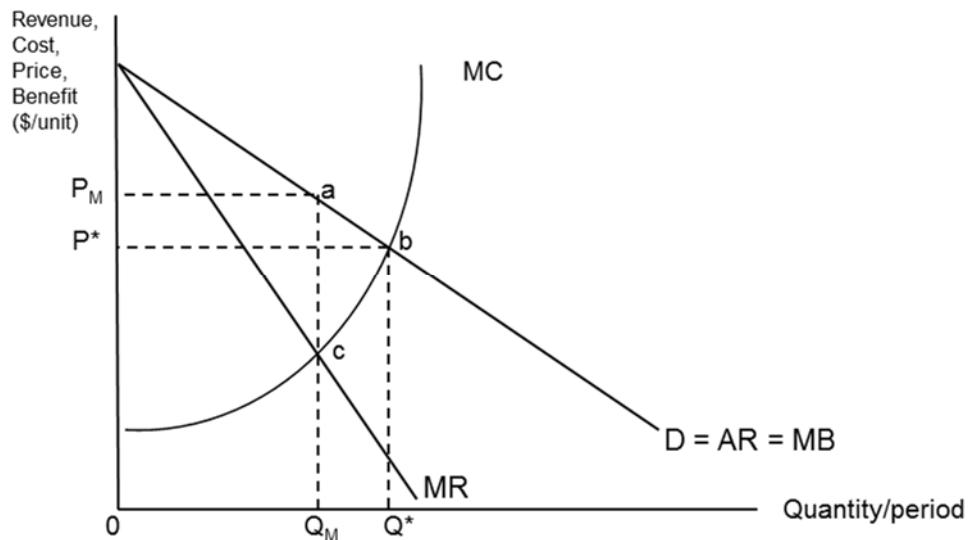


Fig. 1: Revenue and cost curves of a firm with market power

Profit-maximising firms would produce Q_M where $MC = MR$ and charges the maximum possible price it can, P_M (indicated by DD curve).

However, in the absence of externalities, socially optimal output Q^* is where $MC = MB$. Since Q_M is less than Q^* , there is underproduction of the good by a firm with market dominance. Producing Q_M to Q^* units incurs a total benefit of Area abQ^*Q_M , and incurs a smaller total cost of Area cbQ^*Q_M . There is thus welfare loss of Area abc (net benefit not gained) as too little resources is channelled into the production of the good. Market dominance thus causes market to fail.

Immobility of factors of production and market dominance may also lead to *inequity*.

In countries where the economy is transitioning between industries e.g. from secondary industries such as the manufacturing of textile to tertiary such as infocomm services, the income gap between workers in declining industries and growing industries is likely to grow. This is because demand for labour will be rising in the expanding industries thus driving up the wage rate while demand for labour in the contracting industries will be falling, pushing down wage rate. As long as labour is immobile, the wage gap will not be able to narrow. If workers are immobile, lacking the necessary skills or willingness to find jobs in growing industries, they may earn less and be less able to afford goods and services. This may result in a less equitable distribution of goods and services within a country.

In the case of market dominance, prices tend to be higher when firms have market power, i.e. P_M in Fig. 1 than without, i.e. P^* . For necessities, e.g. electricity, this can lead to poor households being unable to afford the good, leading to a less equitable distribution of the good.

Firms with significant market share because of high barriers to entry are also likely to earn sustained supernormal profits. This can lead to greater inequity as the firm owners receive more profit at the expense of consumers, who may be earning lower income than the firm owners.

Conclusion

In conclusion, market fail due to market dominance and immobility of factors of production. Thus, government intervention is needed to reduce the extent of market failure in order to achieve efficiency.

Part (b)

Evaluate the policies currently used by the Singapore government to correct these causes of market failure. [15]

The Singapore government has intervened in these cases of market failure through the use of various policies. Policies used will be evaluated in terms of their effectiveness, taking into consideration any unintended consequences that may have resulted.

To deal with market dominance, anti-competition regulations have been implemented in Singapore to prevent dominant firms from anti-competitive behaviour. The Competition Commission Singapore (CCS) identifies firms that have violated the regulations, and have the capacity to impose fines and enforce regulations. This may include collusive agreements between dominant firms in an industry, or anti-competitive mergers that can lead to a substantial lessening of competition. Collusive agreements can lead to prices being fixed or output restricted to increase prices, leading to an even greater degree of underproduction and higher prices for consumers. Anti-competitive mergers can lead to even larger firms that have greater market power, allowing them to charge higher prices.

An example of government intervention includes preventing Parkway Holdings from acquiring outpatient diagnostic chain RadLink Asia. This increases the level of competition between firms in Singapore, so that demand facing each firm will be lower and more price elastic because of increased substitutes. This will prevent firms from attaining higher levels of market power, which can cause markets to fail as explained in (a).

The Singapore government has also been encouraging competition to reduce market dominance in certain industries through deregulation. One such example is the deregulation of the telecommunications industry by allowing Starhub, M1 and recent addition TPG Telecom to enter the industry previously dominated by Singtel.

With new entrants into the industry, existing firm such as Singtel will face a falling and more elastic demand due to more substitutes available. Both output and prices that it can charge will also fall, making it more affordable for households to purchase the good or service.

However, if firms produce at a lower output, it can mean the loss of potential internal economies of scale (EoS). In particular, this applies to industries with significant internal EoS to be enjoyed, e.g. telecommunications where start-up costs are high. Spreading the high start-up cost over a larger output will lead to lower average costs. The loss of internal EoS may hinder the firms from competing with MNCs in Singapore, or with firms worldwide if the goods or services are exported. It may also lead to higher prices for households if the firms become less able to pass on cost savings to consumers.

As such, there is a need to strike a balance between liberalising the market and making sure firms can enjoy significant internal EoS to benefit society. To that end, the Singapore government has been effective in doing so as seen in its intervention in the banking industry. While it deregulated the banking industry by allowing the entry of more foreign banks, it also allowed some of the local banks to grow through mergers and/or acquisitions to reap internal EoS, e.g. spreading out of advertising cost, managerial internal EoS from having one manager oversee a bigger department.

Both deregulation and mergers are significant to keeping the power of oligopolies in check, which is likely the predominant source of issues of market dominance in Singapore.

In the case of public transportation (bus, train), prices are regulated to keep them affordable for the masses. This leads to a more equitable distribution of services.

However, this may hurt consumer welfare as it may cause public transport companies to have less incentive to improve on services as they earn less supernormal profits.

For industry such as rail transport which is a natural monopoly which have extremely high start-up cost, e.g. cost involved in the building of rail infrastructure, such that minimum efficient scale is reached at an output that is very large relative to level of market demand, encouraging competition is impossible since the presence of more than one firm will lead to losses for both.

Given that it is a natural monopoly, the Singapore government regulate through issuing only 1 license per track and regulated price in the industry to ensure that monopoly price is not being charged to protect consumers welfare. The government seems to have opted for AC pricing since MC pricing will lead to losses for the company.

While AC pricing means the government need not subsidise losses, the output produced is still not allocative efficient. However, the output where $P = AC$ is larger than the output where $MC = MR$, and thus the new output has still led to improvements in efficiency.

Such regulations keep existing firms on their toes given that licences expire, and firms can be fined in the event of breakdowns.

Transport vouchers are also given to lower income households who qualified to help them cope with affording public transport services.

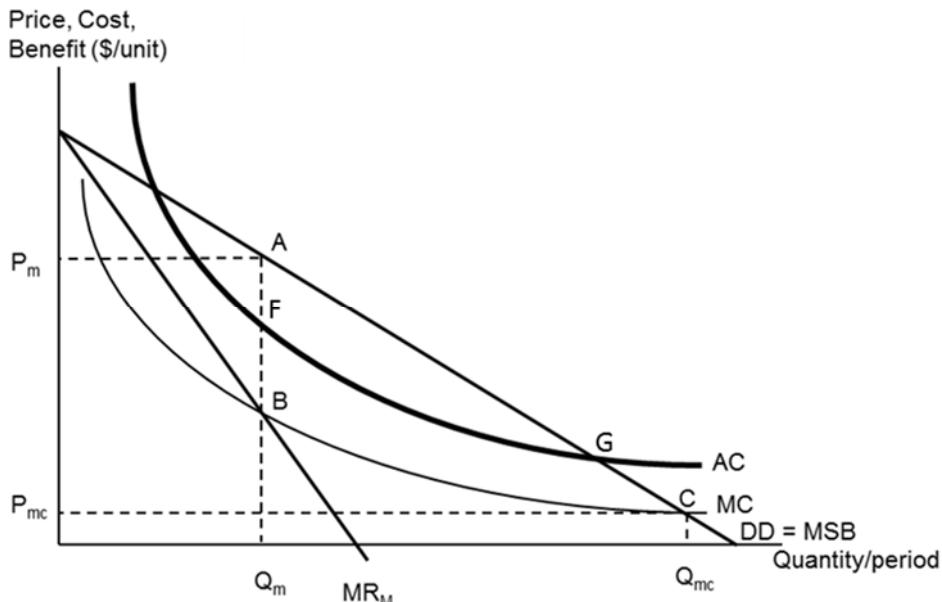


Figure 2: A natural monopoly e.g. rail transport in Singapore

Nationalisation such as for water is one other way the government tackles the issue of market dominance. With the government being the producer of the good or service, production is likely closer to socially optimal output (i.e. produce where $P = AC$ to improve efficiency and avoid subnormal profits) since the government is not a profit-maximiser.

X-inefficiency due to lack of profit motive is not likely to be a significant issue for Singapore, since the government and state-owned firms are generally efficient and will seek to minimise cost.

Measures to deal with immobility of factors of production:

Geographical immobility is not a significant problem in Singapore, given the small size of our island and relatively well-connected transport system.

The key measure implemented in Singapore to tackle occupational immobility of labour is **subsidising training programmes**, e.g. SkillsFuture, to increase the skill level of workers. Subsidising training programmes encourage workers to go for training since it is now cheaper to do so. If successful, this can reduce the mismatch between workers' skill set and job requirements. This will help them transit to jobs that are required by society, improving on efficiency in the allocation of labour resources.

However, this is dependent on workers' willingness and ability to go for the training. This may be an issue particularly for older workers.

In spite of this limitation, skills retraining is still the right policy that the Singapore government has chosen to adopt over the other possible policies as it tackles the root cause of the problem. In particular, occupational immobility has become an issue of concern in recent years due to globalization which sees Singapore continue to transit into high-value knowledge based industries.

The increasing pace of globalisation may also mean that available jobs and their requirements may be changing faster than workers can train for. As such, there may still be a need for social safety nets to improve to help occupationally immobile workers cope with rising costs of living to ensure that they can still consume basic necessities.

To sum up, there is a great deal of government intervention in Singapore economy. Policies adopted so far have not only been appropriate in enhancing the competitiveness, efficiency in the market, but also ensure equity.

PJC 2018 H2 P2 Question 4:

Singapore had experienced annual deflation in a number of years, particularly during economic recessions in 2002, 1998 and 1986. However, the lower prices in 2015 and 2016 are due mostly to lower global crude oil prices and cheaper housing and utilities as well as transport costs.

Source: Adapted from Singapore Business Review 24 May 2016

- a) Explain why deflation might be a concern to a government. [10]
b) Assess alternative policies that the Singapore government might adopt to manage the economy when faced with deflation. [15]

(a) Deflation is the sustained fall in general price level. Government will be more concerned with deflation if the deflation is caused by a fall in aggregate demand during economic recessions. The lower prices seen in 2015 and 2016 due to lower global crude oil prices are probably seen to be less concerned. However, the government will also need to assess whether this lower oil prices is due to oversupply of oil or a fall in world demand for oil due to worldwide recession in order to determine the impact on the economy.

For Singapore, a worldwide recession is likely to cause a fall in exports and hence a fall in aggregate demand. This will result in a leftward shift in the AD causing the general price level to fall and also a fall in the real GDP. As demand for goods and services fall, firms will cut back on their production and this will lead to a fall in the demand for labour. Producers will start to retrench workers and this will lead to a rise in cyclical unemployment. To the producers, lower prices also cause uncertainties to the firms and firms will start hold back on investment resulting in a further fall in aggregate demand and higher unemployment.

Consumers, on the other, will benefit from the lower prices in the short run. Lower prices will allow consumers to buy more goods and services. There will be redistribution of income caused by a fall in general price level. To the saver, their savings will also increase in real value. This will increase their material standard of living. Fixed income earners will now enjoy higher real income and hence higher purchasing power to consume. Borrowers, on the other hand, will lose out as they have to repay their loans that have an increasing real value. However, in the long run, if prices continue to fall, consumers will hold back their consumption in anticipation of further fall in prices. This will result in firms cutting back on production and hence a fall in AD which results in higher unemployment. With lower or no income, consumers will cut back on consumption and this will result in a deflationary spiral which worsens the country's economic growth and rising unemployment, thus penalizing consumers.

To the government, lower prices creates uncertainties and will affect consumers and investors' confidence hence affecting the government's ability to achieve macroeconomic objectives such as sustained economic growth and low unemployment. Foreign firms are less willing to invest in the country given the bleak outlook and this will affect the country's capital account and balance of payments. Government also collects less tax revenue with falling incomes and profits and spend more on unemployment or welfare benefits which may end up worsening the budget balance. Lower tax revenue will also mean less expenditure on merit and public goods which will affect the citizens' standard of living.

In conclusion, it is important for the government to identify the cause of deflation and assess the impact on the economy and finally implement appropriate policies to manage the economy when faced with deflation.

(b) Deflation caused by a fall in AD is a concern to the Singapore government and hence the need to identify the root cause of this deflation. Deflation caused by a downward shift in AS may not be of a concern to the government as a fall in prices due to a fall in cost of production may actually be good to the economy, increase its export competitiveness and lower prices for the consumers, improving material well-being of SOL.

Singapore had experienced annual deflation in a number of years, particularly during economic recessions in 2002, 1998 and 1986 where there is a fall in AD. This is likely caused by a worldwide recession resulting in a fall in exports for Singapore. Exports forms a large portion of the overall AD. To deal with a falling exports, an appropriate policy will be monetary policy centred on exchange rate.

If deflation arise from a fall exports, depreciation of the currency may be appropriate to lower the price of exports. Depreciation will lead to a fall in the price of exports and rise in the price of imports. in net exports. Assuming demand for X and M is price elastic, a fall in price of exports will lead to a more proportionate rise in the quantity demanded for exports. Likewise, a rise in imports will lead to a more proportionate fall in the quantity demanded for imports. Hence, export revenue will rise and import expenditure will fall, this will lead to a rise in net exports and hence AD. A rise in AD will cause the general price level to rise assuming the economy is operating near full employment, hence, solving the problem of deflation.

However, Singapore do not have natural resources and needs to imports her necessity and raw materials. Hence, a depreciation of the currency may directly raise the cost of necessity goods which will lower the material aspect of the standard of living. At the same time, it will also increase the cost of production for firms due to higher import raw material prices. This will reduce the export competitiveness of the country.

Also, even with a depreciation of currency to increase net exports, foreigners may not buy Singapore's exports if their countries are facing a recession resulting in a fall in NY and hence monetary policy centred on exchange rate may not be effective. Hence, depreciation of exchange rate can only mitigate the negative impact of deflation but not eradicate it. It should be complemented with other policies such as the Job Credit scheme and expansionary fiscal policy.

In the short run, falling prices leading to cyclical unemployment poses an immediate problem to the government as it could further depress consumers' confidence and worsen the deflation. To deal with rising cyclical unemployment, government introduced Job Credit scheme in 2001 to preserve jobs. Job credit scheme is a direct subsidy from the government to the firms. This directly lower the cost of production for the firms, preventing firms from making loss thus helping firms to keep their workers. Government also increase subsidies for training and provide additional support for lower-income workers who face a reduction in pay during the downturn. Finally, the Government can also expand recruitment across ministries and statutory boards, for all levels of employees, and including mid-career professionals to boost employment.

However, it should be noted that the Job Credit scheme is very costly and may cause a strain on the government's budget. During a deflation where government is facing falling tax revenue due to falling economic growth and rising unemployment, the Job Credit scheme caused the government to incur a budget deficit which requires the government to either tap into their reserves or borrow. Fortunately, with the healthy reserves, Singapore government is able to avoid the need to borrow which will lead to a higher national debt penalizing future generations. As such, the Job Credit scheme is a useful short term policy to minimize the negative effect brought about by deflation.

If the deflation arises from a fall in consumption and investment due to pessimism, government may need to take the lead and increase government spending to compensate the fall in consumption and investment. An expansionary fiscal policy will be appropriate to increase AD. A fall in income tax will increase the disposable income of consumers and lead to rise in consumption. Likewise, a fall in corporate tax will increase the after tax profits for firms allowing the firms to reinvest these profits and hence spur growth. Through the multiplier effect, national income will rise by multiple times and hopefully this will regain confidence from the consumers and firms.

To attract investment, corporate tax is not the only factor given that Singapore has one of the lowest corporate tax around the region. Hence, other pro-investment policies are needed in order to attract investment. For example, giving tax holidays to retain the existing important industries (oil and gas, pharmaceutical, life science etc.), to provide infrastructure support, R&D subsidies to attract new

sunrise industries (cyber security, AI and automation) and so on.

Government can also increase public spending on infrastructures, healthcare and education. Big projects like new MRT lines, underground tunnels are often built during times of recession to improve economic outlook and build consumers and investors' confidence. This will, however, worsen the budget balance for the government. However, with greater foreign investment, this will lead to a more sustained economic growth for Singapore bringing about higher tax revenue and a healthy budget balance in the future.

Conclusion

Whether the Singapore government is able to manage her economy using appropriate policies when faced with deflation will depend on whether they are able to identify the root cause of the deflation and to manage the extent of the harmful effects of deflation. Most of the times, if deflation is caused by a worldwide recession, there is very little the government can do except to mitigate the effects by focusing on the immediate problem like cyclical unemployment and targeting at the long term economic growth. Based on past performances, Singapore has been able to make strong recovery from a recession and avoid the deflationary trap does show that the combination of exchange rate policy and fiscal policy focusing on supply-side effects have been effective in tackling deflation in Singapore.

PJC 2018 JC 2 H2 Paper 2 Question 5

Singapore's economy expanded a faster-than-expected 1.8 per cent in the last quarter of 2016. Moving ahead, growth remains uncertain. Internally, Singapore has adopted a policy of restricting foreign labour and restructuring towards productivity-driven growth. Externally, higher US interest rate may lead to higher interest rates in Singapore.

Source: Adapted from Channel Newsasia, 3 January 2017

- (a) Explain the possible conflicts in government macroeconomic objectives caused by a policy of restricting foreign labour and restructuring towards productivity-driven growth. [10]

- (b) Assess the impact of higher US interest rate on Singapore's macroeconomic performance. [15]

- (a) Explain the possible conflicts in government macroeconomic objectives caused by a policy of restricting foreign labour and restructuring towards productivity-driven growth. [10]

[10]

Introduction

To achieve a more sustained economic growth, Singapore has adopted a policy of restricting foreign labour and restructuring towards productivity-driven growth. However, in the short run, this might conflict with her other macroeconomic objectives such as price stability and low unemployment.

Body

The policy of restricting foreign labour and restructuring towards productivity-driven growth leads to a healthier BOP and higher economic growth in the long run.

This is because by restricting foreign labour, this will decrease the supply of labour and increase the wage cost. Hence, firms will be incentivised to switch away from labour-intensive methods of production towards more capital-intensive method of production. In addition, Singapore government also encourages firms to make use of better technology in its production by giving more subsidies such as the Productivity and Innovation Credits. This will help to speed up production and increase the labour productivity of firms. With higher labour productivity growth than wage growth, the unit labour cost of firms will fall. This will lead to lower cost of production and hence lower price of exports. Assuming demand for exports is price elastic, the more competitive exports will bring about greater export revenue and hence Singapore's balance of trade will improve.

In addition, higher productivity with the use of better technology will increase the productive capacity of the economy shifting Singapore production possibility curve (PPC) outwards. With both higher AD and AS, Singapore's will experience a more sustained economic growth.

Thus, a policy of restricting foreign labour and restructuring towards productivity-driven growth aims to promote a more sustained economic growth by reducing firm's reliance on labour and incentivizing firms to use better technology.

However, while the policy of restricting foreign labour and restructuring towards productivity driven growth leads to more sustained economic growth in the long run, it may conflict with the macroeconomic aim of price stability in the short run.

In the short run, it is likely that the restriction in foreign labour will cause wages to rise faster than labour productivity. This is because productivity takes a long time to increase. Efforts to improve the work flow and finding and implementing appropriate technology to speed up the work flow takes time. Hence, in the short run, while the wage cost has increased, labour productivity may not have increased. Hence, unit labour cost will rise. With the higher cost of production, the short run aggregate supply (SRAS) will fall causing the SRAS curve to shift upwards. This will lead to higher general price level resulting in higher cost push inflation.

Hence, in the short run, a policy of restricting foreign labour and restructuring towards productivity-driven growth may conflict with the macroeconomic objective of price stability.

Furthermore, the policy of restricting foreign labour and restructuring towards productivity-driven growth may also conflict with the aim of achieving full employment.

This is because with the restructuring towards productivity-driven growth, firms may adopt more labour-saving technology. This will lead to a falling demand for lower skilled workers and a higher demand for higher-skilled workers. The lower skilled workers may be less educated and thus lack the knowledge and skills to take up jobs that require knowledge of information technology. Furthermore, retraining to equip workers with new skills takes a long period of time and older and less educated workers may also be less receptive towards the use of technology. Hence, this may result in rising structural unemployment.

Hence, while the policy of restricting foreign labour and restructuring towards productivity-driven growth leads to more sustained economic growth, it may conflict with the aim of achieving low unemployment in the economy.

In conclusion, the policy of restricting foreign labour and restructuring towards productivity-driven growth is desirable to in achieving a healthier balance of payments and a more sustained economic growth for Singapore in the future, in the short run, there is likely to be higher inflation and unemployment. Hence, Singapore government should adopt policies to minimize these conflicts so that overall this policy is beneficial to Singapore's macroeconomic performance.

Interpret the Question – Part (b)

- (b) Assess the impact of higher US interest rate on Singapore's macroeconomic performance. [15]**

[15]

Introduction

Singapore's economic growth remains uncertain due to the rising interest rate in US. This is because higher US interest rate may cause higher interest rate in Singapore as Singapore is an interest rate taker. However, the higher US interest rate also results in greater capital outflow from Singapore to US. This may result in a depreciation of Singapore dollar which may benefit Singapore. Thus, the net effect of higher US interest rate depends on whether the negative effect of higher Singapore interest rate outweighs the positive effect of a weaker Singapore dollar.

Body

Being an interest rate taker, Singapore interest rate tends to mirror foreign interest rate, particularly US interest rate. Hence, a higher US interest rate will lead to a higher Singapore interest rate.

With higher interest rate in Singapore, this will lead to higher cost of borrowing. Consumers will hence be less willing and able to consume big ticket items on credit. In addition, the opportunity cost of consuming rises and hence consumers are more willing to save rather than consume. Hence, consumption will fall. In addition, with the same expected returns to investment, a higher interest rate will lead to falling profitability of investment. Thus, firms are less able and willing to invest resulting in

a fall in I.

As C and I fall, Singapore's aggregate demand (AD) is likely to fall leading to a multiplied fall in the national income of Singapore due to the many rounds of fall in income-induced consumption.

The effect of a fall in AD on Singapore depends on the degree of resource utilization. If Singapore's economy operates at or near full employment, a fall in AD is actually beneficial to Singapore economy as it brings about a fall in general price level hence causing a fall in demand-pull inflation. However, if the fall in AD occurs when the economy is functioning below full employment, there will be a fall in real GDP and hence resulting in a fall in derived demand for labour causing higher demand-deficient unemployment in Singapore. This may be undesirable for the Singapore economy.

A rise in interest rate may also be undesirable for property buyers who purchase their houses through bank loan. The higher interest rate will result in higher interest payments for their monthly interest payments for their housing loan and hence will have less income to consume. If the interest rate were to rise by a large extent, this may cause a lot of property buyers to default on their housing loans and forcing them to sell off their properties at a loss. If many property buyers end up defaulting on their loans, this may result in rising bad debts of the banks, affecting the liquidity and stability of the financial sector. This is undesirable for the macroeconomic performance of Singapore economy considering that the financial sector is a major contributor to the economic growth of Singapore.

Hence, a rise in interest rate is likely to have negative consequences on the macroeconomic objectives of Singapore economy if Singapore is currently operating below full employment. In addition, depending on the extent of the rise in interest rate, there may be negative consequences on the stability of the property and financial sector of Singapore, hence bringing about negative consequences on the macroeconomic performance for Singapore.

On the other hand, a rise in US interest rate can be beneficial on the Singapore economy as it leads to capital outflow from Singapore to US, thus causing a depreciation of the Singapore dollar.

With a higher US interest rate, investors are more willing to put their money in US banks to earn a higher interest rate. Hence, they will be capital outflow from Singapore to US resulting in a larger supply of S\$ in the foreign exchange market. This will cause the S\$ to depreciate. With a depreciation of the S\$, the price of Singapore export in US\$ will fall while the price of Singapore imports in S\$ will rise. Thus, quantity of exports will rise while quantity of imports will fall. Assuming Marshall-Lerner's condition hold in which the sum of price elasticity of demand for exports and imports is greater than 1, net exports of Singapore will rise and this is beneficial for Singapore's balance of trade. In addition, the rise in net exports will bring about higher AD and hence national income for Singapore assuming Singapore is currently operating below full employment.

Hence, a higher US interest rate can be beneficial in Singapore as it leads to a weaker S\$ which will bring about higher net exports assuming Marshall-Lerner's condition is satisfied.

The net effect of a rise in US interest rate on the macroeconomic performance of Singapore depends on whether the disadvantage of a higher Singapore interest rate outweighs the advantage of a weaker S\$.

Given that Singapore has a larger external sector than domestic sector, the weaker S\$ is likely to have a strong positive effect on the Singapore economy than the negative effect caused by a higher Singapore interest rate.

However, there are other factors to consider.

Firstly, the central bank of Singapore -Monetary Authority of Singapore – may not allow the S\$ to depreciate by a large extent for fear of imported inflation that it may cause. A weaker S\$ may cause price of imported raw materials and foodstuff to rise and this may lead to higher cost of production for the import-dependent Singapore economy, causing higher imported inflation. Hence, due to the smaller extent of depreciation of S\$, the negative effect of a higher Singapore interest rate may

outweigh the positive effect of a weaker S\$.

Secondly, the depreciation of S\$ may not have a strong positive effect on its balance of trade because the higher US interest rate may lead to even more capital outflow from other emerging economies such as Indonesia, India and Malaysia. These economies may experience a large depreciation in their currencies than Singapore. For example, although the S\$ has depreciated against the US\$ due to the higher US interest rate, the S\$ has actually appreciated against the Malaysian ringgit. This is because the Malaysian ringgit has suffered a greater depreciation than the Singapore \$ due to the rise in US interest rate. Hence, in such circumstances, although Singapore exports may gain greater export competitiveness vis-à-vis US goods, Singapore exports may not have lost export competitiveness vis-à-vis the other goods in the other emerging markets.

Hence, the negative effect due to a higher Singapore interest rate is stronger than the positive effect due to a weaker S\$.

Conclusion

In conclusion, it is likely that Singapore may suffer a poorer macroeconomic performance due to the rising US interest rate. However, the extent of the negative impact depends greatly on the pace at which the US government increases its interest rate. Given that the US government has been increasing the US interest rate at a gradual pace, the negative effect on Singapore may be minimized. In addition, the Singapore government has also put in place cooling measures in the property markets to prevent excessive speculation in the property market so that when the interest rate does rise in the future, the property buyers will not be negatively affected, hence preventing the property and financial markets from being negatively affected. Thus, overall, the negative impact of the rise in US interest rate on Singapore economy has been minimal.

PJC 2018 H2 P2 Question 6

"If Singapore is to continue to benefit from international trade, the government needs to continue to use trade-related economic policies, such as free trade agreements (FTAs) and policies to stimulate export industries."

- a) Explain the determinants of the pattern of trade between Singapore and the rest of the world. [10]
- b) Discuss the options available to the government to ensure that it would continue to benefit from free trade. [15]

Pattern of trade refers to the type and quantity of exports and imports that a country trades with her trade partners. Some of Singapore major imports include labour intensive, lower value consumable products such as food and clothing. Singapore also import electronics, petroleum and chemical products and re-export some of these products as higher value added products to its trading partners. The main determinants of the pattern of trade between Singapore and the rest of the world include resource endowment which would determine its comparative advantage in the type of goods being produced.

Singapore with its small physical size with no natural resources, it does not possess any comparative advantage in the production of labour intensive goods such as textile and agricultural products.

According to the theory of comparative advantage states that a country would be able to benefit from trade by specializing in the production of goods and services in which it can produce at a lower opportunity cost. Singapore with its small physical size and small population size, it does not have any comparative advantage in the production of labour intensive goods and services such as textiles, clothing, food or agricultural products. As such, Singapore does not produce and almost import entirely all its consumable products from countries such as China, Malaysia and the rest of its trading partners which enjoy a comparative advantage in the production of these goods at a lower cost than Singapore.

On the other hand, with its highly educated and skilled labour force, Singapore have a comparative advantage in the production of higher value, knowledge intensive goods and services and traded these goods and services with its trading partners. These include goods and services such as high end electronic products, petrol chemical products, pharmaceutical products as well as medical and financial services to its trading partners.

Hence, leveraging on its resource endowment, Singapore imports mainly goods and services which it does not have a comparative advantage in producing and export goods and services which it has a comparative advantage in producing.

Other than its natural resource endowment, government policies are also one of the determinants of the pattern of trade.

Given the limitation of a small physical size with a small population and no natural resources, and hence its inability to compete with its much better endowed and resources rich countries, the Singapore government has deliberately adopted policies to develop its niches of comparative advantage in the higher value, knowledge based industries. The government has adopted various policies such as tax incentives as well as education policies to ensure a highly educated workforce for the knowledge based industries. Through these policies, the government is able to make Singapore an attractive place for investment and determined the exports of Singapore. For example, although Singapore does not produce any oil, with the appropriate government policies, it was able to develop into one of the world's largest oil refinery centre and an exporter of all oil related and petrol chemical products. Singapore has housed all oil refinery and oil and chemical related industries in the same location some of the offshore islands which has allowed the development of the external economies of scale for these industries being located in the same location. This has helped to lower the cost of production for these industries and increased its productivity and hence allowing these industries to producing and exporting competitive priced products to the world.

Hence, even without the comparative advantage deriving from the endowment of natural resource, Singapore is able to develop its own niches of comparative advantage via appropriate government policies which has determined type of goods and services it export to the rest of the world.

Another factor which has also determined Singapore's pattern of trade is the location and proximity of its trading partners.

Most countries in the world tend to trade a lot more with its neighbouring countries and Singapore is no exception. Singapore largest trading partners tend to be those countries which are in close proximity such as Malaysia and Indonesia, although these countries may not possess the comparative advantage in the production of goods and services that Singapore imports from them. The likely reason is due to the lower transportation costs and lesser time taken for the delivery of the goods. Lower transportation costs and shorter delivery time taken would lower price of the goods and ensure the freshness of the perishable goods. All these would translate into lower prices and better quality products. Examples of such imports are water and agricultural products from Malaysia and natural gas from Indonesia. And due to higher transportation costs, Singapore imports of agricultural products from further apart countries such as Japan and USA tends to be of a higher quality and of a higher price range.

Hence, proximity of its trading partners would determine the type goods imported and exported by Singapore.

In conclusion, there are many factors which determine the pattern of trade with the rest of the world. Other than the 3 factors explained above, other factors which can influence the pattern of trade include trade policies of the government such as free trade agreement with other countries, protectionist measures, taste and preference of the consumers and even the changes in technology can affect the pattern of trade between countries.

For Singapore, with its exports of mainly knowledge based or capital intensive products and import of lower value, labour intensive products which it does not have any comparative advantage in producing, the total value of its exports is higher than its total value of imports, and as such Singapore is still able to achieve a balance of trade surplus ($M > X$).

- a) Discuss the options available to the government to ensure that it would continue to benefit from free trade.** [15]

Given the nature of Singapore economy – small physical size with no natural resources. Trade, inevitably has become the main engine of growth for the country. It is thus, not surprising that the total value of trade is more than 3 times the real GDP of Singapore. But trade by itself would not guarantee economic growth and development for the country unless it is able to benefit from trade. In order to ensure that it is able to be able to continue to benefit from trade, Singapore needs to ensure that the exports of its goods and services are relevant and competitive to its trading partners. And there are several options which the government can adopt to achieve this aim. Some of these policies such as fiscal and supply side policies required continual and substantial amount of commitment bare continual while some of the policies such as exchange rate policies may be situational in nature.

As stated by the theory of comparative advantage, each country should specialize in the production of goods and services in which it has a comparative advantage and consequently to enable a greater production and consumption of goods and services via trade.

But comparative advantage is a dynamic and revolving concept. With the opening up of countries such as China and Vietnam for trade, Singapore has lost its comparative advantage in the production of low value products to these countries. As such, Singapore needs to continually develop new comparative advantage in order to benefit from trade and one way to achieve this is via the adoption of fiscal and supply side policies.

The Singapore government has been adopting fiscal policy with competitive corporate tax rate to attract investment into Singapore. And this is complemented with a host of other tax incentives such as tax exemption and rebates to attract targeted higher value and knowledge based industries to invest in Singapore and help the economy in developing its comparative advantage in these industries such as the petrol chemical, pharmaceutical and the aerospace industries. Special areas have also been earmarked for the development of these different industries. For example, the Seletar area is designated for the development of the aerospace industry and some offshore islands are designated for the petrol chemical industries. As these industries are concentrated in a certain areas, they are able to reap the benefits of the external economies of scale and lower their costs of production and hence increasing their competitiveness.

Hence, in order to continually develop new comparative advantage for the production of goods and services, the government can adopt fiscal policies

However, with fiscal attract the new industries would not be sufficient to help in developing new comparative advantage and boosting Singapore exports competitiveness. It needs to be complemented with the appropriate supply side policies in the development of the workforce.

The Singapore government has implemented policies to encourage the life-long learning and continually upgrading of the skills of the workforce. One such policy is SkillsFuture where every adult above the 21 years of age are given a credit of \$500 which they can use to offset the training courses they attended. For the companies, training expenses incurred for staff are allowed for tax deduction. Other incentives such as grants are also made available for firms to increase their productivity by upgrading and automating their production.

The development of the skills of the workers is necessary as the economy moves into the production of higher value and knowledge based products. With training, it helps to increase the productivity of firms as the workers acquire new skills in handling the new machinery, hence

lowering cost of production and increasing competitiveness of its exports. It also increases the occupational mobility of workers as the economy develops new comparative advantage as it moves towards the production of higher value goods and services.

Hence, the development of new comparative advantage of the economy is necessary in order for Singapore to continue to benefit from trade and this requires an adoption of a complementary of both the fiscal and supply side policies. And both policies would require a long term and heavy financial commitment by the government. In addition, it is also essential for the government in correctly identifying the correct comparative advantage that the economy can develop.

Other than the fiscal and supply side policies, another option that the government can adopt in order to ensure the competitiveness of the country's exports and hence benefit from trade is via the exchange rate policy.

The Singapore government has adopted a managed floating exchange rate system where the government allows the exchange rate to fluctuate within a certain band. It allows its exchange rate to appreciate to reduce the prices of imported raw materials to curb imported cost push inflation and reduce the cost of production which can increase the price competitiveness of Singapore's exports.

On the other hand, the Singapore government may opt to depreciate its currency if it is overvalued against its major trading partners which has reduced the export competitiveness of its goods and services. With a fall in the value of its currency, its exports become cheaper in terms of foreign currency, and this would increase the price competitiveness of a country's exports. And if the demand for the country's exports are price elastic, a fall in price would lead to a more than proportionate increase in quantity demanded and hence boosting the exports of the country.

Depreciating one's currency to increase its competitiveness can only be a short term strategy to boost its exports and benefits from trade. Such a strategy may invite retaliation where the trading partners may impose protectionist measures such as tariffs on the exports of the country. An example would be the frequent trade disputes between the US and China where the Chinese firms have been accused of having an unfair trade advantage due to the manipulation of its currency by the government. A more realistic and long term solution would be for a country to improve the quality or increase the productivity of its production to increase its competitiveness.

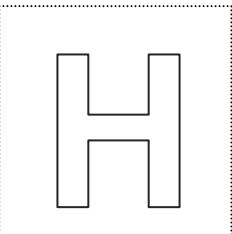
Other points that the government can adopt are trade policies such as the signing of free trade agreements with its trading partners.

A free trade agreement is a legally binding agreement between 2 or more countries to reduce or eliminate barriers to trade and investment. FTA would enlarge and secure the necessary markets for Singapore to make up for its lack of a large domestic market. Not surprisingly, Singapore is a participant to a number of free trade agreements with the different countries. FTA would result in greater trade as well as greater investment flows, hence affecting the economies of participating countries.

However, with the signing of FTA with other countries, it would also open up the Singapore's economy and subject the domestic firms to greater foreign competition. If the domestic firms are not competitive, it may drive out domestic firms, increasing the country's reliance on foreign firms for its economic growth. As such, to complement the signing of FTA, it is necessary that the government also adopt policies (such as supply side policies) to increase the productivity and competitiveness of domestic firms.

In conclusion, given its natural physical limits, free trade is necessary for the survival and growth of Singapore. However, it cannot be assumed that free trade would only bring forth benefits. It should be noted that with free trade, it would not automatically guarantee growth for

the economy and that not all countries would benefit equally from free trade. Thus, it would be necessary that the government adopt appropriate policies to mitigate the negative impact of free trade and ensure that the economy could benefit from free trade.



ST. ANDREW'S JUNIOR COLLEGE
PRELIMINARY EXAMINATIONS – 2018 (JC2)
General Certificate of Education Advanced Level
Higher 2

ECONOMICS

9757/01

Paper 1

27 August 2018

2 hours 15 minutes

Additional Materials: Answer Paper

READ THESE INSTRUCTIONS FIRST

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Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** questions.

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[Turn Over]

Answer all questions

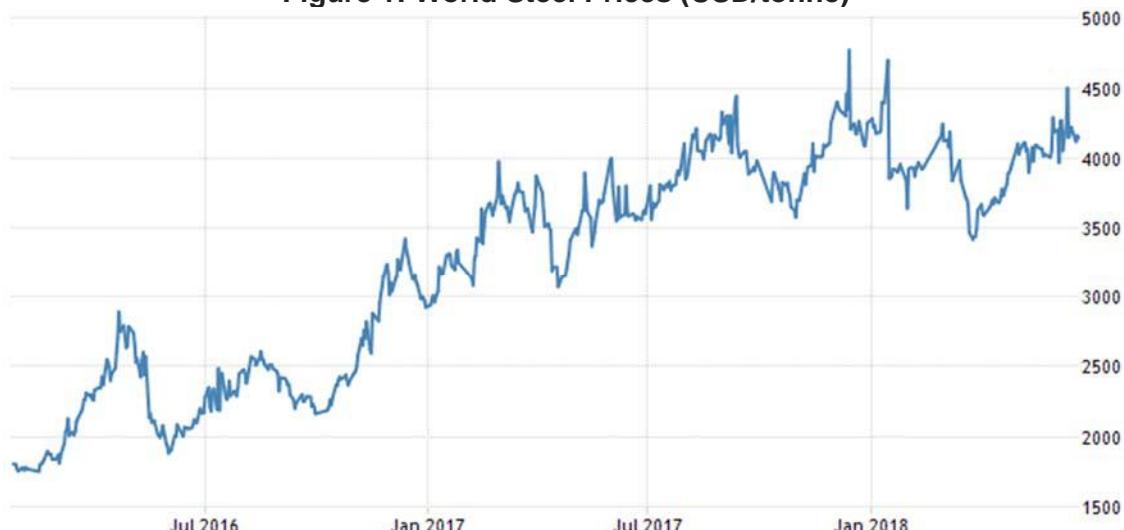
Question 1: Steel Industry in India

Table 1: World Steel Output and Consumption (million tonnes)

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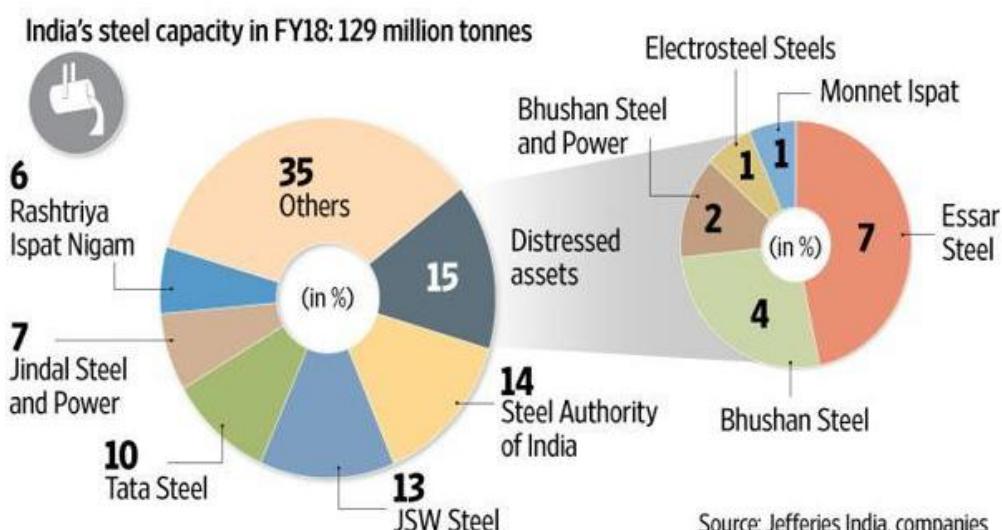
Source: World Steel Association

Figure 1: World Steel Prices (USD/tonne)



Source: Tradingeconomics.com

Figure 2: Key Steel Producers in India



Extract 1 Steel industry gets protection

India's Steel Minister Narendra Singh Tomar said that additional steps will be taken to protect domestic steel industry, which is facing a bad patch, in wake of cheap Chinese imported steel. "China was trying to dump its cheap steel in India and as a result of it, the domestic steel industry was in distress. To protest domestic industry, we enhanced import duty and imposed safeguard duty. But these steps were not enough and we will be taking additional steps in this regard", said Tomar.

Steel ministry along with the Finance and Commerce ministries are engaged in a dialogue to work out the steps that need to be taken for protecting domestic steel industry in the near future, according to media reports. "China is offering steel at half price compared to domestic industry in India. The way China is working, it appears (that) an economic war was on," he said.

Giving relief to domestic steel producers against cheap in-bound shipments, the government on Friday imposed a minimum import price (MIP) on 173 steel products ranging between \$341 and \$752 per tonne. The minimum price will remain in place for six months only.

The Minister further said state-run steel production centres are being expanded and modernised and four new steel plants were being set up in Jharkhand, Odisha, Chhattisgarh and Karnataka.

Source: realtyplusmag.com, 01 Feb 2016, www.thehindubusinessline.com, 05 Feb 2016

Extract 2: 'Iron and steel industries are economy's backbone'

NAGPUR: Iron ore and steel industry is one of the basic industries of the country and plays an important role in strengthening the economy.

Delivering a talk on the 'Indian iron ore industry-an overview', CS Gundewar, controller general, Indian Bureau of Mines said that India was the fourth largest producer of steel in the world. Iron and steel was one of the largest industries supporting the country's economy.

At present India produces 65 million tonnes steel, but as per the 'National Steel Policy', the country is expected to raise this production to 180 million tonnes by the year 2020. But this, he said, would be possible only by exploring new mines. Though India has large resources of iron ores with estimated capacity of 28.52 billion tonnes, magnetite reserves could not be exploited due to the presence of these ores in the 'eco-fragile' zones mainly in Western Ghats. Gundewar also stressed on the need for more scientific and environment conscious mining by using eco-friendly technologies.

Source: Timesofindia.indiatimes.com, 15 May 2013

Extract 3: What is making Indian steel expensive?

A World Steel Dynamics (WSD) report has ranked India ahead of most countries, except those from the Commonwealth of Independent States, in terms of the cost curve. Yet, the sector is reeling from cheap imports and high inventory levels.

According to WSD data for January this year, production cost for hot-rolled coils in India was \$349 a tonne, compared with \$428 in China, \$429 in South Korea, \$448 in Japan and the global average of \$418. Add to it the taxes, freight and the cost of capital, and the picture isn't really rosy for domestic steel makers, companies claim.

"Our internal freight rate is two-three times higher compared to China," says Sushim Banerjee, director-general of the Institute for Steel Development and Growth.

Logistics costs from Bellary to Delhi would be \$60, while for the same distance in China, a producer would pay only \$18, says Jayant Acharya, director (commercial and marketing), JSW Steel.

Former Tata Steel former managing director, J J Irani, says, "Most modern steel plants are shore-based, as the cost of transporting ores in large carriers is much cheaper than hauling it in trains. Korean and Japanese plants are all shore-based. They also import ores rather than mine ores."

Adapted from www.business-standard.com, 24 Sep 2015

Questions

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- (c) In view of the current market structure in the Indian steel industry, discuss the possible impact of the Indian government's removal of the minimum import price after six months on consumers and producers of steel in India. [8]
- (d) (i) With the use of an example, explain what is meant by comparative advantage. [2]
- (ii) Assess the options that are available to the Indian government to secure India's comparative advantage in steel production. [10]

[Total: 30]

Question 2: The Debate on Globalisation

Table 2: Current account balance of various economies (US\$, billions)

	2011	2012	2013	2014	2015	2016
India	-62.5	-91.5	-49.1	-27.3	-22.5	-12.1
U.S.	-465.9	-426.2	-349.5	-373.8	-434.6	-451.7
China	136.1	215.4	148.2	236	304.2	196.4

Source: *World Bank*

Table 3: China's inflation rate (annual %)

Year	2011	2012	2013	2014	2015	2016
Inflation rate (%)	5.41	2.64	2.63	2.0	1.44	2.0

Source: *World Bank*

Extract 4: China eyes improved India ties in case of Sino-U.S. trade war

China is currently facing down a list of import tariffs levied by the Trump administration, agitated by the country's \$375 billion trade surplus with the United States. In response, it has hinted at relaxing rules on some American imports and suggested dialogue rather than escalating a potential trade war.

That is not all, however. China is now taking steps to protect itself if a trade war does come to pass, and is looking to India as a potential ally, although India's government is not all too happy with its own China trade deficit. China wants to treat other countries, especially major partners, well in case U.S. tariffs force Chinese exporters to depend more on markets outside the United States, analysts say. India is a prime target. Beijing knows India finds the trade relationship uneven, experts say, increasing the urgency to please it.

"Indian officials see China pursuing a 'beggar-thy-neighbour' policy and undermining India's manufacturing sector by dumping cheap, subsidised goods in the Indian market while importing raw materials from India," says Mohan Malik, a professor at the Asia-Pacific Centre for Security Studies in Honolulu, Hawaii. India has filed the largest number of anti-dumping cases in the World Trade Organisation (WTO) against China, he notes.

A closer trade relationship with India means more opportunities in the future, as India is expected to be the fastest-growing economy for the next decade. India's GDP, the world's fourth-largest, is growing at around 6.5% -- close to China's own rate of acceleration.

However, China has cause to fear India's economic expansion as Indian wages are generally lower than Chinese equivalents, keeping manufacturing costs down, says Stuart Orr, professor of strategic management at Deakin University in Australia. India would also not be burdened by U.S. tariffs aimed at China. "If India increases its imports from the U.S., the doors will be open for India to export more to the U.S. as well," Orr says. "As China's wage rates continue to rise, China has every basis for fearing an India with a developed manufacturing capability, fuelled by the demand of more exports to the U.S.," he says.

Source: *Forbes*, 3 April 2018

Extract 5: China's vanished current-account surplus will change the world economy

The State Administration of Foreign Exchange (SAFE) said on Friday that China had recorded a deficit of US\$28.2 billion in its current account for the first three months of 2018, in what is the first quarterly deficit since the second quarter of 2001. Economists said it could signal a fundamental shift in China's international payment position.

Ding Shuang, the chief China economist with Standard Chartered in Hong Kong, wrote in a note that China has run a current account surplus on an annual basis in the past 25 years and "people tend to take China's surplus for granted". However, "a moderate shock, against the backdrop of intensifying trade frictions, can push China's current account into deficit," he wrote.

The merchandise trade surplus dropped 35 per cent year-on-year to US\$53.4 billion in the first three months of this year, SAFE said. Meanwhile, the service trade deficit, including tourism, was US\$76.2 billion, resulting in an overall current account deficit, according to China's official balance of payment figures.

Ding forecasts that China's current account will likely return to a surplus in the coming months, but the surplus will be just 1% of GDP this year and 0.5% next year. The trade ruckus with the U.S. could reinforce the downward trend.

Adapted from *South China Morning Post*, 4 May 2018 and *The Economist*, 17 May 2018

Extract 6: Globalisation or de-globalisation?

A cursory glance at economic preferences of people around the world point at two prominent trends. Firstly, those in advanced countries are increasingly interested in de-globalisation.

The term de-globalisation is used to highlight the trend of several countries wanting to go back to economic and trade policies that put their national interests first. These policies often take the form of tariffs or quantitative barriers that impede free movement of people, products and services among countries. The idea behind all this protectionism is to shield local manufacturing by making imports costlier. The present talk around 'trade war' and 'de-globalisation' cropped up after the U.S., in March, imposed 25 per cent and 10 per cent duty on steel and aluminium imports, respectively, from certain countries, citing national security and job creation as the triggering factors.

The second trend, on the other hand, is that less developed countries have become vanquards of interconnected economy, as it provides them, through the expansion of markets and infusion of foreign capital and technology, with the chance to develop economically. The proponents say globalisation represents free trade, which promotes global economic growth, creates jobs, allows labour to move from country to country to market their skills and makes companies more competitive.

An IMF Working Paper looked at how globalisation affects the distribution of incomes across and within countries. "In rich economies, globalisation still represents a source of economic growth, but the expected gains are lower than in poor and emerging market economies, where globalisation increases economic well-being and reduces poverty. While in the average developing economy the poor as well as the wealthy benefit from globalisation, in many advanced economies globalisation often has little effect on the incomes of the poor," they claimed. This is a point that explains why a majority of people in economically advanced countries are rallying against globalisation, leading to protectionist trade practices.

The economists have an advice for the governments. "Government policies matter in making the benefits of globalisation more inclusive. Investments in education that raise skill levels, as well as taxes and transfers that spread the benefits more broadly, can help globalisation fulfil its promise of generating gains for all," they argued.

Adapted from *Forbes*, 6 May 2015 and *The Asian Age*, 25 June 2018

Questions

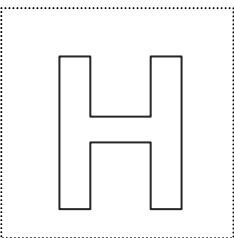
- (a) Using Table 2, compare the current account balance of India and the U.S. from 2011 to 2016. [2]
- (b) How far do Tables 2 and 3 show an improvement in China's economic performance from 2011 to 2016? [5]
- (c) With reference to Extract 4, explain the potential macroeconomic impact of U.S. tariffs on both China and India. [5]
- (d) Extracts 4 and 5 mention some of the challenges faced by the Chinese economy in recent times. [8]

Using the data and your own relevant knowledge, evaluate **two** policy options the Chinese government may consider in overcoming **any two** of these challenges.

- (e) With reference to data where appropriate, assess the extent to which world economies should pursue de-globalisation. [10]

Total: 30 marks

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ST. ANDREW'S JUNIOR COLLEGE
PRELIMINARY EXAMINATIONS – 2018 (JC2)
General Certificate of Education Advanced Level
Higher 2

ECONOMICS

9757/02

Paper 2

11 September 2018

2 hours 15 minutes

Additional Materials: Answer Paper

READ THESE INSTRUCTIONS FIRST

Write your name and class on all the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **three** questions in total, of which **one** must be from Section A, **one** from Section B and **one** from **either** Section A or Section B.

Start each question on a fresh sheet of paper.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question.



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Answer **three** questions in total.

Section A

One or two of your three chosen questions must be from this section.

1. Besides possessing dominant positions in many of the world's most important markets, budget airlines are stealing passengers from full-service carriers. Fierce cost-cutting, unbundling of services as well as booming economies of the developing world are but some contributing factors to the roaring success of budget airlines. Last year, for the first time, they carried more than one billion fliers – nearly 30% of the 3.7 billion who took to the air.

Adapted from The Wall Street Journal, Aug 2017

- (a) Explain the factors that determine the price elasticity of demand, income elasticity of demand and cross elasticity of demand for a good. [10]
- (b) Discuss the relative importance of the above demand elasticity concepts in explaining the rise in popularity of budget airlines among air travelers in the past decade. [15]
2. A firm's level of profits tends to rise and fall with dynamic changes in the global economy.
 - (a) Explain whether a firm will continue to operate in the short run when faced with a rise in various types of costs. [10]
 - (b) Globalisation is likely to change the market structure a firm operates in and the level of its profits. Discuss. [15]
3. In the US and UK, public libraries have been facing cuts in government funding and there is a rise in the number of public library closures. In Singapore, the National Library Board (NLB) has been revamping old libraries and opening new ones. In 2017, the government provided an operating budget of \$246.97 million to NLB.

Explain whether governments should fund public libraries and discuss the factors that governments should consider when allocating resources to public libraries. [25]

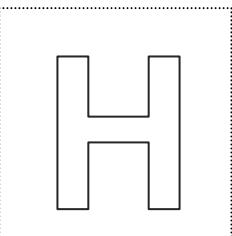
Section B

One or two of your three chosen questions must be from this section.

4. Discuss the extent to which conflicts in government macroeconomic objectives limit the scope for the use of macroeconomic policies. [25]

5. (a) Explain how a country's deficit on its balance of payments could affect its standard of living. [10]
(b) Discuss how best a government should address potential concerns arising from a persistent deficit on its balance of payments. [15]

6. "Rising protectionism in the West has become a threat to Asia's prosperity." Tommy Koh, ambassador-at-large for Singapore's Ministry of Foreign Affairs, Credit Suisse 2017 Global Megatrends Conference.
(a) Explain why protectionism exists. [10]
(b) Discuss whether the Singapore government's approach towards international trade should be adjusted in view of rising worldwide protectionism. [15]



ST. ANDREW'S JUNIOR COLLEGE
PRELIMINARY EXAMINATIONS – 2018 (JC2)
General Certificate of Education Advanced Level
Higher 2

ECONOMICS

9757/01

Paper 1

27 August 2018

2 hours 15 minutes

Additional Materials: Answer Paper

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Answer all questions

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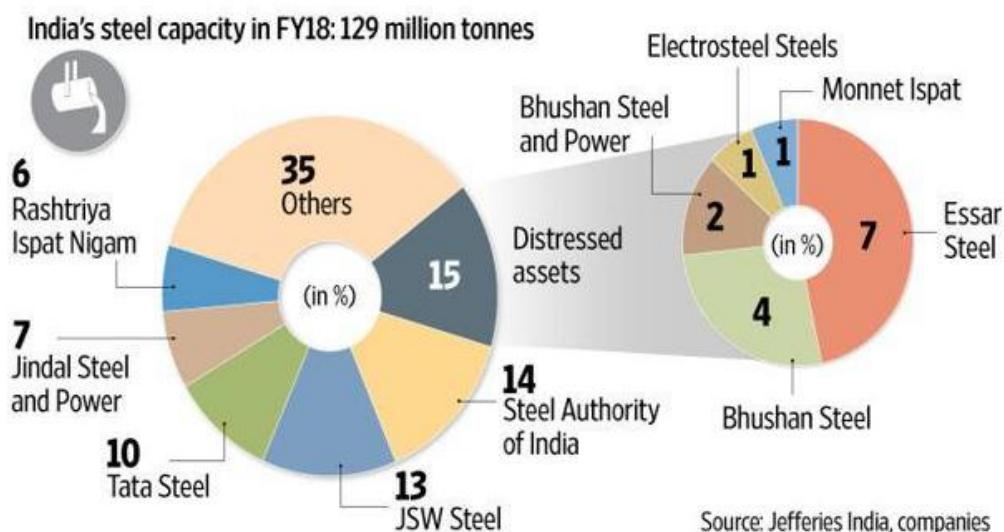
Source: World Steel Association

Figure 1: World Steel Prices (USD/tonne)



Source: Tradingeconomics.com

Figure 2: Key Steel Producers in India



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Adapted from www.business-standard.com, 24 Sep 2015

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[Total: 30]

Suggested Answers

(a)	(i)	Describe the trend of world steel prices from Jan 2016 to Dec 2017.	[1]
		The trend is generally a <u>rising</u> one. [1]	
	(ii)	With reference to Table 1, explain a possible reason for the apparent contradiction between the data and the trend of world price of steel in (a) (i).	[3]
		<p>Table 1 seems to suggest that <i>there had been a <u>surplus</u></i> in the market from 2016 to 2017 as every year, the production is greater than consumption.[1] Hence, the <u>world market price of steel ought to be falling</u>. [1]</p> <p><u>Possible reason for ‘anomaly’</u> [1] However, as <u>output may not equate to supply</u> (portion of steel may be produced but not offered for sale), Table 1 may not therefore show the supply, and hence, the surplus of steel from 2016 to 2017. It is possible to postulate that some steel producers may have tried to withhold some amount of produced steel from the market in order to induce an upward pressure on steel prices.</p>	
(b)	(i)	Using an example, explain what is meant by price floor.	[2]
		<p>A price floor is the <u>legally minimum market price of a good or service</u> and is set above the market equilibrium price. [1]</p> <p>E.g. A minimum import price on imported steel imposed by Indian government means that imported steel must not be sold less than the legally permissible price set by the Indian government. [1]</p> <p>Or</p> <p>A minimum wage is a form of price floor. It is the lowest wage a worker may be paid. Workers must not be paid lower than this legally permissible wage, usually set by governments or trade-unions. [1]</p>	
	(ii)	With the use of a diagram, explain how a minimum import price could achieve the Indian government’s intended objective.	[4]

	<ul style="list-style-type: none"> The objective of the minimum import price is to protect domestic steel producers or <u>to protect steel workers by raising the price of imported steel.</u> Given that local steel producers are facing a bad patch in wake of cheap Chinese imported steel (P_w), Indian government adopted minimum import price, which brought the equilibrium price to P_{min}. As price of imported steel increases, quantity demand for imported steel by Indian consumers falls. At the same time, domestic consumers switched from imported steel to domestic steel. Domestic firms increase output from Q_1 to Q_2, a success of imposing minimum import price. 	
	<p style="text-align: center;"><u>Fig 1: MIP impact on Indian (Domestic) Steel Market</u></p>	
(c)	<p>In view of the current market structure in the Indian steel industry, discuss the possible impact of the Indian government's removal of the minimum import price after six months on consumers and producers of steel in India.</p>	[8]
	<p>Removal of minimum import price means that imported steel will be bought and sold at the original price previously.</p> <p>Current Steel Market Structure is an oligopolistic one. Current steel market dominated by 5 largest producers with a combined market share of 51% (Fig. 2).</p> <p><u>Steel producers in India – Positive impact</u></p> <ul style="list-style-type: none"> The expectation of a return of foreign competition with the removal of minimum import price will force local producers to further explore ways to be even more efficient. Dominant oligopolistic steel producers may have used their supernormal profits to invest heavily on R&D to seek more efficient production methods and produce more quality steel to better compete with foreign suppliers (e.g. China). Some dominant firms may even collude in order to consolidate their resources for R&D and gain greater market share. With greater market share comes higher IEOS. This can help Indian made steel be more price competitive as producers 	

	<p>pass cost savings to consumers. Continued effort to be more competitive may allow such dominant local steel firms to grow even stronger in due course, further entrenching their oligopoly position.</p> <p><u>Steel producers in India – Negative impact</u></p> <ul style="list-style-type: none"> • The smaller steel producers are likely to be the distressed ones. With the impending removal of minimum import price only after six months of implementation, such small steel producers would unlikely have had the time nor the financial resources to ready themselves for the return of foreign stronger competitors. • Assuming that there is no collusion with bigger dominant firms, their low output and less ability to reap iEOS, they are likely to lose customers to the foreign suppliers. • They could suffer from falling TR, profits and thus, exit the industry altogether. • Their exit may allow foreign firms to take over their market share. <p><u>Steel consumers in India – Positive impact</u></p> <ul style="list-style-type: none"> • However, the removal of minimum import price will no doubt reduce cost of production (COP) of steel consumers, who use steel as a factor of production. Lowered COP for steel consumers could mean higher profits, assuming unchanged TR. • This is especially true for heavy steel users such as car and equipment manufacturers. • With heightened foreign competition, existing oligopolists will even be more unlikely to employ collusion tactics for fear of losing significant amount of customers e.g. via predatory pricing <ul style="list-style-type: none"> ◦ This could bring about greater cost savings to consumers, steel consumers may enjoy even lower prices than those charged by Chinese steel producers. <p><u>Steel consumers in India – Negative impact</u></p> <ul style="list-style-type: none"> • Removal of minimum import prices is likely to lead to entry of foreign steel producers in Indian steel market. • Should these foreign producers, being more efficient than local ones, and dominate the Indian steel market in the foreseeable future, steel consumers in India may become increasingly reliant on foreign steel. • Heavy reliance on such a critical input may put the domestic steel consumers at risk of future unexpected trade dispute or transport delay. <p><u>EVALUATION</u></p> <ul style="list-style-type: none"> • Dominant oligopolistic Indian steel producers are unlikely to exit the industry than the smaller local steel producers. This is due to their stronger past super-normal profits/ financial reserves either to withstand foreign competition or to plough into the R&D and/or marketing efforts to gain further market share. • However, R&D may not always be successful. In the event that R&D outcome is not realised in time, the dominant oligopolistic Indian firms may not be able to compete with foreign firms and lose their market share when MIP is lifted. <ul style="list-style-type: none"> ◦ As more foreign firms enter the once oligopolistic Indian steel market, it may eventually become monopolistic competitive.
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	<ul style="list-style-type: none"> ○ Alternatively, on the other hand, if a single foreign firm manage to dominate the Indian steel market, it may even become monopolistic. ● Given steel industry is one key pillar of Indian economy (Ext 2), it is unlikely that Indian government will allow foreign firms to dominate the domestic steel industry. Hence, steel consumers will continue to be able to import steel at a lower price than before removal of minimum import prices and not run the risk of having to buy steel exclusively from only foreign steel producers even in the longer term. 									
	<table border="1"> <thead> <tr> <th>Level (Marks)</th><th>Knowledge, Application, Understanding, Analysis</th></tr> </thead> <tbody> <tr> <td>L2 (4 – 6)</td><td> <ul style="list-style-type: none"> - Clear explanation of impact on both consumers and producers. Balanced answer given based on sound economic arguments. - Explanation needs to include both positive and negative impact on the consumers and producers. </td></tr> <tr> <td>L1 (1 – 3)</td><td> <ul style="list-style-type: none"> - Weak explanation (incomplete or contains errors) of impact presented. - Lack of supporting evidence from case materials. </td></tr> <tr> <td>E (1 – 2)</td><td> <ul style="list-style-type: none"> - Suitable judgement provided for producers and consumers – 2m. - Merely stand given without substantiation – 1m. </td></tr> </tbody> </table>	Level (Marks)	Knowledge, Application, Understanding, Analysis	L2 (4 – 6)	<ul style="list-style-type: none"> - Clear explanation of impact on both consumers and producers. Balanced answer given based on sound economic arguments. - Explanation needs to include both positive and negative impact on the consumers and producers. 	L1 (1 – 3)	<ul style="list-style-type: none"> - Weak explanation (incomplete or contains errors) of impact presented. - Lack of supporting evidence from case materials. 	E (1 – 2)	<ul style="list-style-type: none"> - Suitable judgement provided for producers and consumers – 2m. - Merely stand given without substantiation – 1m. 	
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(d)	(i)	<p>With the use of an example, explain what is meant by comparative advantage.</p>	[2]							
		<ul style="list-style-type: none"> ● Define comparative advantage (CA) – A country is said to have CA if it is able to produce a good with less opportunity cost than another country producing the same good. ● Example: Production of vegetables in Singapore vs Malaysia ● Singapore faces land scarcity and lack of expertise in farming. On the other hand, Malaysia has land and farming know-how. ● Hence, per kilogramme of vegetables produced in Singapore, Singapore may need to sacrifice more resources and hence output from the next best sector (e.g. tourism services). Hence, opportunity costs in terms of tourism services produced will be much higher in Singapore than in Malaysia. [1] 								

	(ii) Assess the options that are available to the Indian government to secure India's comparative advantage in steel production.	[10]
	<p><u>INTRODUCTION</u></p> <ul style="list-style-type: none"> • A country's CA depends on 1) quality and quantity of factors of production and 2) availability of suitable production techniques/technology. • Options that are available to the Indian government to secure CA must at least ensure no erosion/loss of (1) and (2). • Based on extract, options available include <ul style="list-style-type: none"> ○ #1: modernising state-run production centres ○ #2: improve transport network/infrastructure to cut freight costs ○ #3: build more shore-based plants <p><u>BODY</u></p> <ul style="list-style-type: none"> • Option #1: State-run steel production centres are being expanded and modernised (Ext 1). Doing so could help steel firms <ul style="list-style-type: none"> ▪ Expansion helps to reap EOS by expanding scale of production and lower unit COP ▪ Modernisation helps to increase efficiency and productivity by using modern technology; as such reduce unit COP • Lower COP could help to secure CA. <ul style="list-style-type: none"> ○ Lower COP implies less funding/resources has been sacrificed from elsewhere to pay for the steel production → lower opportunity cost ○ Also, with more efficient and productive technology to produce steel, this could also mean fewer units of resources are needed to produce the same quantity of steel, thus freeing up such scarce resources to produce more units of other goods → lower opportunity cost <p><u>Advantages/Limitations</u></p> <ul style="list-style-type: none"> • Concern remains whether such state-run centres will strive to be as cost efficient as possible. As steel is one large industry in India (Ext 2), such state-run centres may have an even more important objective – create jobs. Hence, the state-run firms may compromise cost efficiency and instead choose to employ excessive workers. In so doing, these state-run firms may not be able to help India secure its CA. • Option #2: Improve transport network/infrastructure to reduce internal freight rate (Ext 3) <ul style="list-style-type: none"> ▪ Improve the transport infrastructure network (construct dedicated rail tracks, etc) to cut down on freight cost to transport raw materials to steel production plants as well as finished products to the ports to be exported. 	

- **Option #3:** Build more shore-based plants
 - Could explore building shore-based plants like those in Korea and Japan.
 - Cuts down freight/transport costs (Ext 3 – much cheaper to carry ore in ships than hauling ore in trains).
- Both options lower transportation cost. This could help secure CA.
 - Lower COP implies less funding/resources has been sacrificed from elsewhere to pay for the steel production → lower opportunity cost

Advantages/Limitations

- Option 2 would be highly necessary if ore deposits are located far away from steel plants. Huge investment would be needed to lay rail tracks – hence may strain govt budget. Should the govt need to borrow to finance this project, financial crowding out effect may retard actual economic growth.
- Option 3 would allow India to reap long term benefits, as shore-based plants will forever terminate the need to haul ores via trains, a more expensive option of obtaining raw materials for steel producers.
- Although there may be pollution, pollution would unlikely affect large population due to location near sea – generates minimal negative externality.

EVALUATION

- Though improving the transport network could help to secure CA for India, this method will require continual upgrading of the network once the current ore mines get exhausted. The network will need to reach newer ore mines, which means a drain on future government budget as well as making the existing network under-utilised.
- The Indian government should consider building only shore-based steel plants so as to cut down on the need to continuously improve the transport network. Given India's long shoreline, the government is unlikely to have to vacate or evict any existing occupants of the land, thereby reducing any opportunity cost of steel production. In addition, due to its proximity to the sea and away from population, the minimal negative externalities generated should help align Indian government's aim to be eco-friendly in its quest to achieve economic growth.

Level (Marks)	Knowledge, Application, Understanding, Analysis
L2 (5 – 7)	<ul style="list-style-type: none"> - Clear explanation of any two options available, detailing how India's CA in steel production could be secured. - Explanation needs to draw suitable evidence from the case materials.
L1 (1 – 4)	<ul style="list-style-type: none"> - Superficial explanation (incomplete or contains errors) of options was given. - Lack of supporting evidence from case materials.
E (1 – 3)	<ul style="list-style-type: none"> - Appropriate assessment provided with justification based on sound economic argument. - Merely stand given without substantiation – 1m.
	[Total: 30]

Question 2: The Debate on Globalisation

Table 2: Current account balance of various economies (US\$, billions)

	2011	2012	2013	2014	2015	2016
India	-62.5	-91.5	-49.1	-27.3	-22.5	-12.1
U.S.	-465.9	-426.2	-349.5	-373.8	-434.6	-451.7
China	136.1	215.4	148.2	236	304.2	196.4

Source: *World Bank*

Table 3: China's inflation rate (annual %)

Year	2011	2012	2013	2014	2015	2016
Inflation rate (%)	5.41	2.64	2.63	2.0	1.44	2.0

Source: *World Bank*

Extract 4: China eyes improved India ties in case of Sino-U.S. trade war

China is currently facing down a list of import tariffs levied by the Trump administration, agitated by the country's \$375 billion trade surplus with the United States. In response, it has hinted at relaxing rules on some American imports and suggested dialogue rather than escalating a potential trade war.

That is not all, however. China is now taking steps to protect itself if a trade war does come to pass, and is looking to India as a potential ally, although India's government is not all too happy with its own China trade deficit. China wants to treat other countries, especially major partners, well in case U.S. tariffs force Chinese exporters to depend more on markets outside the United States, analysts say. India is a prime target. Beijing knows India finds the trade relationship uneven, experts say, increasing the urgency to please it.

"Indian officials see China pursuing a 'beggar-thy-neighbour' policy and undermining India's manufacturing sector by dumping cheap, subsidised goods in the Indian market while importing raw materials from India," says Mohan Malik, a professor at the Asia-Pacific Centre for Security Studies in Honolulu, Hawaii. India has filed the largest number of anti-dumping cases in the World Trade Organisation (WTO) against China, he notes.

A closer trade relationship with India means more opportunities in the future, as India is expected to be the fastest-growing economy for the next decade. India's GDP, the world's fourth-largest, is growing at around 6.5% -- close to China's own rate of acceleration.

However, China has cause to fear India's economic expansion as Indian wages are generally lower than Chinese equivalents, keeping manufacturing costs down, says Stuart Orr, professor of strategic management at Deakin University in Australia. India would also not be burdened by U.S. tariffs aimed at China. "If India increases its imports from the U.S., the doors will be open for India to export more to the U.S. as well," Orr says. "As China's wage rates continue to rise, China has every basis for fearing an India with a developed manufacturing capability, fueled by the demand of more exports to the U.S.," he says.

Source: *Forbes*, 3 April 2018

Extract 5: China's vanished current-account surplus will change the world economy

The State Administration of Foreign Exchange (SAFE) said on Friday that China had recorded a deficit of US\$28.2 billion in its current account for the first three months of 2018, in what is the first quarterly deficit since the second quarter of 2001. Economists said it could signal a fundamental shift in China's international payment position.

Ding Shuang, the chief China economist with Standard Chartered in Hong Kong, wrote in a note that China has run a current account surplus on an annual basis in the past 25 years and "people tend to take China's surplus for granted". However, "a moderate shock, against the backdrop of intensifying trade frictions, can push China's current account into deficit," he wrote.

The merchandise trade surplus dropped 35 per cent year-on-year to US\$53.4 billion in the first three months of this year, SAFE said. Meanwhile, the service trade deficit, including tourism, was US\$76.2 billion, resulting in an overall current account deficit, according to China's official balance of payment figures.

Ding forecasts that China's current account will likely return to a surplus in the coming months, but the surplus will be just 1% of GDP this year and 0.5% next year. The trade ruckus with the U.S. could reinforce the downward trend.

Adapted from *South China Morning Post*, 4 May 2018 and *The Economist*, 17 May 2018

Extract 6: Globalisation or de-globalisation?

A cursory glance at economic preferences of people around the world point at two prominent trends. Firstly, those in advanced countries are increasingly interested in de-globalisation.

The term de-globalisation is used to highlight the trend of several countries wanting to go back to economic and trade policies that put their national interests first. These policies often take the form of tariffs or quantitative barriers that impede free movement of people, products and services among countries. The idea behind all this protectionism is to shield local manufacturing by making imports costlier. The present talk around 'trade war' and 'de-globalisation' cropped up after the U.S., in March, imposed 25 per cent and 10 per cent duty on steel and aluminium imports, respectively, from certain countries, citing national security and job creation as the triggering factors.

The second trend, on the other hand, is that less developed countries have become vanguards of interconnected economy, as it provides them, through the expansion of markets and infusion of foreign capital and technology, with the chance to develop economically. The proponents say globalisation represents free trade, which promotes global economic growth, creates jobs, allows labour to move from country to country to market their skills and makes companies more competitive.

An IMF Working Paper looked at how globalisation affects the distribution of incomes across and within countries. "In rich economies, globalisation still represents a source of economic growth, but the expected gains are lower than in poor and emerging market economies, where globalisation increases economic well-being and reduces poverty. While in the average developing economy the poor as well as the wealthy benefit from globalisation, in many advanced economies globalisation often has little effect on the incomes of the poor," they claimed. This is a point that explains why a majority of people in economically advanced countries are rallying against globalisation, leading to protectionist trade practices.

The economists have an advice for the governments. "Government policies matter in making the benefits of globalisation more inclusive. Investments in education that raise skill levels, as well as taxes and transfers that spread the benefits more broadly, can help globalisation fulfil its promise of generating gains for all," they argued.

Adapted from *Forbes*, 6 May 2015 and *The Asian Age*, 25 June 2018

Questions

- (a) Using Table 2, compare the current account balance of India and the U.S. from 2011 to 2016. [2]
- (b) How far do Tables 2 and 3 show an improvement in China's economic performance from 2011 to 2016? [5]
- (c) With reference to Extract 4, explain the potential macroeconomic impact of U.S. tariffs on both China and India. [5]
- (d) Extracts 4 and 5 mention some of the challenges faced by the Chinese economy in recent times. [8]

Using the data and your own relevant knowledge, evaluate **two** policy options the Chinese government may consider in overcoming **any two** of these challenges.

- (e) With reference to data where appropriate, assess the extent to which world economies should pursue deglobalisation. [10]

Total: 30 marks

Suggested answers

(a)	Using Table 2, compare the current account balance of India and the U.S. from 2011 to 2016.	[2]
	Similarity: Both India and US are facing a current account deficit from 2011 to 2016. OR Both countries' current account deficits are improving/becoming smaller.	[1]
	Difference: India's current account deficit is always smaller than that of US.	[1]
(b)	How far do Tables 2 and 3 show an improvement in China's economic performance from 2011 to 2016?	[5]
	<p>Introduction:</p> <ul style="list-style-type: none"> China's economic performance can be measured through the 4 macroeconomic indicators i.e. economic growth, inflation rate, unemployment rate and BOP position. <p>Thesis:</p> <ul style="list-style-type: none"> Table 1 shows a rising CA surplus, which may imply rising AD in China and hence, actual growth and an increase in employment. Furthermore, a rising CA surplus may also reflect an improving BOP position of short term BOP surpluses, assuming BOP equilibrium. Table 2 shows a slowing inflation rate in China which could reflect moving towards the goal of low and stable inflation. <p>Anti-thesis:</p> <ul style="list-style-type: none"> However, a rising CA surplus may not necessarily mean an improvement in economic performance as it is not reflect the entire BOP, which also takes into account flows in the KFA. Additionally, a rising CA surplus in the long term may result in long term BOP surpluses, which worsens China's economic performance in achieving long term BOP equilibrium. A slowing inflation rate may also mean the economy's growth is slowing down, therefore worsening China's economic performance. <p>Evaluation:</p> <ul style="list-style-type: none"> Given that Tables 1 and 2 only provide China's CA balance and inflation rate respectively, there is insufficient data to accurately conclude if there has been an overall improvement in China's economic performance as the data provided does not give a complete picture of the four key areas of economic performance. Hence, the tables show an improvement in China's economic performance to a small extent. 	

(c)	With reference to Extract 4, explain the potential macroeconomic impact of U.S. tariffs on both China and India.	[5]
	<p>Define tariff: Tariffs are duties paid for certain types of imports.</p> <p>OR</p> <p>Explanation of the impact of the tariff on Chinese goods.</p> <p>Macroeconomic impact of U.S. tariffs on China:</p> <ul style="list-style-type: none"> • A U.S. tariff on Chinese products would make Chinese goods more expensive in the U.S., resulting in a fall in quantity demanded for China's exports. • Ceteris paribus, this may cause a decline in AD, resulting in real national income decreasing via the multiplier effect (negative economic growth), increasing the level of unemployment in China. OR • Ceteris paribus, this may worsen China's CA and hence, BOP position. <p>Macroeconomic impact of U.S. tariffs on India:</p> <ul style="list-style-type: none"> • As India would not be burdened by the U.S. tariffs aimed at China (Extract 1 para 5), India may potentially be able to trade more with the U.S. • If export revenue of India exceeds its import expenditure, this may increase AD, ceteris paribus, causing an increase in real national income via the multiplier effect, resulting in actual economic growth as well as an increase in employment. OR • Ceteris paribus, this may improve India's CA and hence, BOP position. • If export revenue of India is smaller than its import expenditure, this may decrease AD, ceteris paribus, causing a fall in real national income via the multiplier effect, resulting in negative economic growth as well as an increase in unemployment. OR • Ceteris paribus, this may worsen India's CA and hence, BOP position. 	[1] [2] [2]
(d)	<p>Extracts 4 and 5 mention some of the challenges faced by the Chinese economy in recent times.</p> <p>Using the data and your own relevant knowledge, evaluate <u>two</u> policy options the Chinese government may consider in overcoming <u>any two</u> of these challenges.</p>	[8]
	<p>Introduction</p> <p>Challenges faced by the Chinese economy:</p> <ol style="list-style-type: none"> 1. Looming trade war between China and the U.S. 2. Potential loss in competitiveness to countries such as India 3. China's declining CA balance <p>These challenges faced by China have varied negative impacts on economic growth, employment and BOP position in China.</p> <p>Body</p> <p><u>Challenge #1</u></p> <p>The looming trade war may result in the loss of one of China's largest markets abroad, which may negatively affect China's export revenue and hence, economic growth, unemployment as well as BOP position.</p>	

	<p>Policy considerations:</p> <ol style="list-style-type: none"> 1. Trade policies to appease the U.S. <p><i>Evidence: It has hinted at relaxing rules on some American imports and suggested dialogue rather than escalating a potential trade war (Extract 4 para 1)</i></p> <p>By relaxing rules on some American imports, this may help ease some tension between China and the U.S. as the U.S. would have greater access to China's market, potentially reducing the CA surplus China has with the U.S. to some degree by reducing China's export revenue from the U.S., and increasing its import expenditure to the U.S.</p> <p>In the longer term, this would be beneficial to not only the U.S., but to China as well as the improved trade relations would still mean that they would be able to continue to trade with the U.S., rather than shutting out all opportunities to trade.</p> <p>These trade policies may reduce the extent of the decrease in export revenue as compared to a trade war with the U.S., hence, alleviating the impact on China's economic growth, unemployment and BOP position.</p> <ol style="list-style-type: none"> 2. Trade policies to improve trade relations between China and other countries such as India <p><i>Evidence: Undermining India's manufacturing sector by dumping cheap, subsidised goods in the Indian market (Extract 4)</i></p> <p>China should address the dumping allegations by India and use fairer trade practices to improve trade relations with India. Furthermore, given that India is expected to be the fastest-growing economy for the next decade (Extract 1), fairer trade practices should encourage greater trade between China and India, allowing China to ride on India's growth as a source of external growth. Hence, this may help to increase China's export revenue in the longer term, positively impacting its economic growth, unemployment and BOP position.</p> <p>Evaluation: However, there is no guarantee of success with trade policies as China has also threatened to impose tariffs on U.S. goods to China, which may further worsen the already volatile trade relations between the two countries. Similarly, China may refute India's allegations on dumping, potentially worsening trade relations between the two countries.</p> <p><u>Challenge #2</u></p> <p><i>Evidence: China has cause to fear India's economic expansion as Indian wages are generally lower than Chinese equivalents, keeping manufacturing costs down (Extract 4 para 3).</i></p>	
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	<p>A loss in price competitiveness may signal a decline in China's future export revenue and as a result, have negative implications on its economic growth, unemployment and BOP position.</p> <p>Policy considerations:</p> <ol style="list-style-type: none"> 1. Supply-side policies <p>For example, China may need to move further up the value-added chain in order to remain competitive in the global economy. This may involve education and training to restructure the economy, in harnessing a new area of comparative advantage to increase export price competitiveness internationally. This should help to increase export revenue in China, boosting actual economic growth, employment and improving the BOP position, <i>ceteris paribus</i>.</p> <p>Evaluation: In moving up the value-added chain, it may also be important for China to look into increasing its non-price competitiveness of exports, rather than just price competitiveness, as higher value-added products usually require greater polish and are of higher quality.</p> <p><u>Challenge #3</u></p> <p>Evidence: <i>China had recorded a deficit of US\$28.2 billion in its current account for the first three months of 2018, in what is the first quarterly deficit since the second quarter of 2001 (Extract 5 para 1).</i></p> <p>A deficit in the CA could signal a worsening balance of trade and as a result, negative growth and a fall in employment.</p> <p>Policy considerations:</p> <ol style="list-style-type: none"> 1. One of the wider-known macroeconomic policies in China is the rebalancing of growth, from externally-driven sources, to more internally-driven sources. In recent years, China has been striving to rebalance from export-driven growth to that of consumption-led growth. The refocusing of their drivers of growth reduce reliance on the global economy to drive more stable growth and employment. <p>Evaluation: Rebalancing of growth may take some time to change as it involves large macroeconomic changes and a fundamental change in mindsets of consumers from saving, to consumption.</p> <p>Note: Students may choose to discuss <u>any appropriate policy</u> option to tackle the various challenges China may face.</p> <p>Accepted policies include:</p> <ul style="list-style-type: none"> • Expenditure reducing (contractionary MP and FP) • Expenditure switching (depreciation) • Retaliatory protectionism 	
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Synthesis

In view of the various challenges China is experiencing, China may need to prioritise the issues at hand in order of importance, in order to effectively reduce its negative impacts on the macroeconomy. In so doing, China will better be able to achieve its aims of high and sustained economic growth, low unemployment and a favourable BOP position. Furthermore, given that some policy options require some time before its effects can be seen in the macroeconomy, it would be wise of the Chinese government to consider a combination of short term and long term policy options in order to see the best outcome in mitigating these challenges.

Level	Knowledge, Application, Understanding, Analysis	Marks
L2	For a well-developed answer that demonstrates a good understanding of the issues faced by the Chinese economy. Responses show sound understanding of causes of the problems and how the policies may alleviate the challenges faced by China, as well as the shortcomings of the policies.	4-6
L1	For an under-developed answer that demonstrates some understanding of the challenges faced by the Chinese economy. Policy options offered may largely be rehashed without consideration of the context of the situation. Answers may contain misconceptions and tend to be one-sided.	1-3
E	For an explained judgement.	2
	For an unexplained judgement.	1

(e)	With reference to data where appropriate, assess the extent to which world economies should pursue deglobalisation.	[10]

Introduction

Globalisation has its advantages and disadvantages. However, not all economies are equal and hence, the extent to which these economies see the benefits and costs of globalisation may differ largely. More often than not, deglobalisation is pursued because of national interest, which may relate to any of the 4 macroeconomic or 2 microeconomic aims of a government.

Thesis

Economies **may** choose to pursue deglobalisation if the costs of globalisation exceeds its benefits.

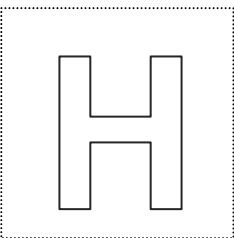
Evidence: In rich economies, globalisation still represents a source of economic growth, but the expected gains are lower than in poor and emerging market economies, where globalisation increases economic well-being and reduces poverty (Extract 6 para 4).

Data appears to suggest that the benefits of globalisation for developed countries are small relative to the costs of globalisation. Hence, these economies may choose to pursue deglobalisation in order to reduce the costs of globalisation.

	<p>1. Some economies may choose to pursue deglobalisation in order to achieve a healthier BOP position:</p> <p><i>Evidence: China is currently facing down a list of import tariffs levied by the Trump administration, agitated by the country's \$375 billion trade surplus with the United States (Extract 4 para 1).</i></p> <p>Economies that are currently experiencing a CA and/or BOP deficits, such as the U.S., may want to pursue deglobalisation in order to reduce these deficits. By implementing protectionistic measures such as tariffs, imports become relatively more expensive, resulting in a decrease in quantity demanded of imports and therefore, import expenditure. <i>Ceteris paribus</i>, this should reduce the CA and BOP deficits, allowing economies such as the U.S. to achieve a healthier BOP position.</p> <p>2. Some economies may also choose to pursue deglobalisation in order to achieve greater levels of economic growth and employment:</p> <p><i>Evidence: The idea behind all this protectionism is to shield local manufacturing by making imports costlier. The present talk around 'trade war' and 'deglobalisation' cropped up after the U.S., in March, imposed 25 per cent and 10 per cent duty on steel and aluminium imports, respectively, from certain countries, citing national security and job creation as the triggering factors. (Extract 6).</i></p> <p>Shielding local manufacturing by making imports costlier would cause a substitution effect with foreign-produced goods to that of domestically produced goods as they are now relatively cheaper. This would result in a decrease in import expenditure and an increase in consumption. <i>Ceteris paribus</i>, this should increase AD and hence, real national income via the multiplier effect. As more output is produced, there is an increase in derived demand for labour, resulting in greater levels of employment.</p> <p>3. Some economies may also choose to pursue deglobalisation in order to reduce income inequality.</p> <p><i>Evidence: In many advanced economies globalisation often has little effect on the incomes of the poor (Extract 6 para 4).</i></p> <p>Developed economies may lose their comparative advantage in the production of labour-intensive manufactured goods to developing countries with cheaper labour. As these jobs tend to be filled by the less-educated and poor, they may find themselves structurally unemployed, worsening the income gap between the rich and the poor. The imposition of protectionist measures that shield such domestic industries (as explained previously) allows the poor retain the work that they do, and</p>	
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	<p>may hence alleviate the widening income disparity that was a result of globalisation.</p> <p>Anti-thesis</p> <p>However, not all economies may choose to pursue deglobalisation. Economies may not choose to pursue deglobalisation if the benefits of globalisation exceeds its costs.</p> <ol style="list-style-type: none"> 1. Some economies may not choose to pursue deglobalisation in order to achieve greater levels of growth and employment. <p><i>Evidence: It provides them, through the expansion of markets and infusion of foreign capital and technology, with the chance to develop economically (Extract 6 para 3).</i></p> <p>Developing economies may enjoy larger consumer based because of globalisation as it allows for greater movement of goods and services abroad. This allows them to sell relatively cheaper goods abroad, raising their export revenue. <i>Ceteris paribus</i>, this increases AD and hence real national income via the multiplier effect.</p> <p>Developing economies stand to benefit from the gains in transfer of capital and technology brought forth by globalisation. As globalisation allows for greater movement of capital and technology, this may increase FDI from developed economies to developing economies. <i>Ceteris paribus</i>, an increase in FDI would cause an increase in the investment component of AD, causing an increase in real national income via the multiplier effect, allowing developing countries to experience actual economic growth. Furthermore, this would increase derived demand for labour, increasing the level of employment.</p> <p>Transfer of capital and technology could also result in an increase in the LRAS of the developing country as it adds to the quality of factors of production. This would result in an increase in productive capacity of the economy, resulting in potential economic growth.</p> <p>Evaluation/conclusion</p> <p>How far world economies should pursue deglobalisation may depend on:</p> <ol style="list-style-type: none"> 1. The stage of development of the economy <p>As developed economies are increasingly seeing rising costs and declining benefits of globalisation, many developed economies are more inclined towards deglobalisation as they are further away from achieving their various microeconomic and/or macroeconomic goals. Developing countries, on the other hand, continue to enjoy the benefits of</p>	
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	<p>globalisation and may therefore see little benefit of pursuing deglobalisation.</p> <p>2. The policies implemented by the various governments to deal with the costs of globalisation, while maximising on its benefits</p> <p><i>Evidence: Government policies matter in making the benefits of globalisation more inclusive. Investments in education that raise skill levels, as well as taxes and transfers that spread the benefits more broadly, can help globalisation fulfil its promise of generating gains for all (Extract 6).</i></p> <p>While developed economies may appear to face the brunt of the costs of globalisation, suitably chosen government policies may help to alleviate these costs, making globalisation more desirable as a whole. For example, the investment in education may be important to reduce the degree of structural unemployment in an economy due to loss in areas of comparative advantage. This would increase occupational mobility, allowing displaced workers to find other sources of employment elsewhere.</p> <p><i>Evidence: In rich economies, globalisation still represents a source of economic growth, but the expected gains are lower than in poor and emerging market economies (Extract 6 para 4).</i></p> <p>Given that in developed countries, globalisation is still a source of growth, such economies may need to rethink the pursuit of deglobalisation and make use of appropriate policies that may allow them to continue to ride the wave of globalisation.</p>																
	<table border="1"> <thead> <tr> <th>Level</th><th>Knowledge, Application, Understanding, Analysis</th><th>Marks</th></tr> </thead> <tbody> <tr> <td>L2</td><td>For a well-developed response that demonstrates good use of information from the data to support their arguments for and against globalisation. Answers make use of sound economic theory and show good links to the macroeconomic aims of an economy.</td><td>5-7</td></tr> <tr> <td>L1</td><td>For an under-developed response that shows some arguments for or against globalisation. Answers tend to be largely theoretical in nature and may not relate to the macroeconomic aims of an economy.</td><td>1-4</td></tr> <tr> <td>E2</td><td>For an explained judgement.</td><td>2-3</td></tr> <tr> <td>E1</td><td>For an unexplained judgement.</td><td>1</td></tr> </tbody> </table>	Level	Knowledge, Application, Understanding, Analysis	Marks	L2	For a well-developed response that demonstrates good use of information from the data to support their arguments for and against globalisation. Answers make use of sound economic theory and show good links to the macroeconomic aims of an economy.	5-7	L1	For an under-developed response that shows some arguments for or against globalisation. Answers tend to be largely theoretical in nature and may not relate to the macroeconomic aims of an economy.	1-4	E2	For an explained judgement.	2-3	E1	For an unexplained judgement.	1	
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ST. ANDREW'S JUNIOR COLLEGE
PRELIMINARY EXAMINATIONS – 2018 (JC2)
General Certificate of Education Advanced Level
Higher 2

ECONOMICS

9757/02

Paper 2

11 September 2018

2 hours 15 minutes

Additional Materials: Answer Paper

READ THESE INSTRUCTIONS FIRST

Write your name and class on all the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **three** questions in total, of which **one** must be from Section A, **one** from Section B and **one** from **either** Section A or Section B.

Start each question on a fresh sheet of paper.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question.



This document consists of **3** printed pages.

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[Turn Over]

1. Besides possessing dominant positions in many of the world's most important markets, budget airlines are stealing passengers from full-service carriers. Fierce cost-cutting, unbundling of services as well as booming economies of the developing world are but some contributing factors to the roaring success of budget airlines. Last year, for the first time, they carried more than one billion fliers – nearly 30% of the 3.7 billion who took to the air.

Adapted from The Wall Street Journal, Aug 2017

(a)	Explain the factors that determine the price elasticity of demand, income elasticity of demand and cross elasticity of demand of a good.	[10]
(b)	Discuss the relative importance of the above demand elasticity concepts in explaining the rise in popularity of budget airlines among air travelers in the past decade.	[15]

(a)	
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Introduction

The various elasticity of demand concepts allow economists to determine the responsiveness of consumers to the change in the causal factor. Each of the elasticity concepts is in turn affected by its own sets of factors.

Body

- **PED** measures the responsiveness of quantity demanded of a good with respect to a change in price of the good itself c.p. (provide formula).
- The PED value is always negative – assumes Law of Demand applies to the good
- Size of PED value informs of the responsiveness of consumers to the change in price of the good itself, c.p. The larger the (absolute) value, the more responsive consumers are.

Suggested Factor – E.g. Degree of necessity

- PED value of a necessity is expected to be low and less than 1 (i.e. $PED < 1$).
- Given a rise in price, a consumer will only reduce the quantity demanded of the goods less than proportionately due to the continued need to consume the good.
- For example, even if the price of salt rises by 10%, a consumer will unlikely reduce his consumption by more than 10%, if at all. This is as salt is one necessary component of one's diet to maintain a healthy body.
- Likewise, it is unlikely for a consumer to increase consumption of salt more than proportionately to the given a fall in its price, as there is absolutely no need for an average healthy and rational person to do so. Hence, the PED value of salt is said to be less than one; demand for salt is price inelastic.

- **YED** measures the responsiveness of the demand of a good to a given change in income c.p. (provide formula).
- The YED value is positive for normal good) and negative for inferior good.
- Size of YED value informs of the responsiveness of consumers to demand for a good when they experience a change in income, c.p. The larger the absolute value, the more responsive they are.

Suggested Factor – Nature of good

- When a good is Inferior in nature, a given change in income will lead to opposite change in demand for good. For example, a consumer will increase demand for an inferior good (e.g. lower quality meat, canned meat) and a decrease in demand for normal/luxury goods when he experiences a fall in his income.
- **Fall in income** → desire to conserve financial means to fulfil basic needs by giving up ‘good-to-haves’ such as luxury food items (e.g. expensive cuts of meat) and **increasing demand** for ‘must-haves’ such as potato or rice for subsistence purpose. Hence, YED for potato is negative.
- **XED** measures the degree of responsiveness of the demand for a good to a given change in the price of a related good or service, *ceteris paribus*.
- The XED value is positive for substitutes) and negative for complements.
- Size of XED value informs of the responsiveness of consumers to demand for Good X when the price of Good Y changes, c.p. The larger the absolute value, the more related Good X and Good Y are.

Suggested Factor – Degree of relatedness of good

- Degree of substitutability between two goods (i.e. Weak vs close substitutes) determine the absolute value of the XED between them.
- For example, Pepsi and Coca Cola are close substitutes. The fall in price of Pepsi will lead to a much more than proportionate fall in demand for Coca Cola than the fall in demand for coffee. This is because Cola drinkers are more ready to switch to cheaper Pepsi (and hence demand much less Coca Cola) than coffee drinkers.
- Coffee drinkers generally do not view Pepsi and coffee as close substitutes. Hence, XED for Coca Cola and Pepsi will be much higher and that for coffee and Pepsi will be much lower.

CONCLUSION

- There may be multiple factors which could ultimately determine each of the elasticity values. In such a situation, the dominant factor would usually be the sole determinant of the elasticity value of the good prevailing at that time in consideration.

Level (Marks)	Knowledge, Application, Understanding, Analysis
L3 (8 – 10)	<p>Answer shows thorough knowledge and an excellent ability to explain at least one factor for all three elasticity concepts in a precise, logical and reasoned manner. Top grade answer ought to include the following:</p> <ul style="list-style-type: none"> - Definitions - Examples to illustrate - Explanation of how the factor affects the elasticity values (EITHER different size of values – big vs small OR signs the values take – positive vs negative)
L2 (5 – 7)	<p>Answer explained at least one factor each for at least two elasticity concepts.</p> <p>Answer is mostly accurate but there may be undeveloped explanation of concepts.</p>
L1 (1 – 4)	<p>Answer shows some knowledge of elasticity concepts (mere definitions and formulae given). Factors are more stated than explained. Meek attempts at suggesting examples to support answers.</p> <p>There may be basic errors in phrasing of the key terms and highly inadequate explanations. The answer could be mostly irrelevant or inaccurate.</p>

(b)

Introduction

- The rise in popularity suggests a significant increase in the equilibrium quantity of passenger flights, i.e. Q_e . (Important to explain why there was **a huge rise in Q_e .**)

Body

- **Fierce cost-cutting – suggest that supply rises (bring in PED)**
 - o Increase in supply of budget carriers leads to movement down demand curve
 - o Hence, P falls and Quantity demanded rises.
 - o The value of PED for budget air-travel is likely to be high. This is because the customers are largely lower income / budget conscious travelers. Hence, they are more price sensitive; would rather forego comfort/convenience, etc.
 - o Evaluation:

- Likely to be a big reason as budget airlines are new phenomenon in the air travel market over the past decade.
- Budget airlines can attract many price sensitive customers who previously did not have a choice but to fly with full-service carriers.
- Can also attract significant amount of low income travelers who previously could not afford to fly at all (e.g. students, casual workers, retirees, etc)
- Unbundling of services – rise in demand / rise in Qd (**bring in XED**)
 - Ditching of frills better matches the needs of certain groups of travellers.
 - Full-service carriers may compete by providing discounts (P falls). However, XED assumed to be very low due to significant differences between budget and full service carrier services (in terms convenience when boarding planes, choice of destinations, availability of connecting flights, etc). Hence, such discounts may not be able to claw back significant number of customers from budget airlines.
 - Alternative, in the event that there is no price cuts by the full-service carriers, XED will not be useful at all.
- Burgeoning economies (**Bring in YED**)
 - Offers huge increase in demand by swathes of population across the globe who can now afford to fly. As air travel may be a luxury good to most of them, rise in income earned led to much mtp rise in demand for air travel. This is especially so for big, developing economies such as India and China.
 - Note that there is some exodus from budget to full-service carriers too. However, this is assumed to be less significant due to the considerable margin between budget and full-service carriers.

Conclusion

- Given the dynamics of the economic conditions over time (simultaneous and multiple changes in income, price of the goods itself and price of other goods), it is theoretically impossible to determine the singular, most important elasticity concept that led to rise in Qe of budget air travel.
- Furthermore there could be other factors that also affect the market equilibrium. For example, there might be increased fears of flying due to terrorism threats or concerns about aviation safety. These might cause a dip in demand which would then dampen the overall rise in Qe of budget air travel. In view of these

external factors, it would also be difficult to assess which demand elasticity was most important in explaining the rise in Qe of budget air travel.

- However, given the main target audience of budget air travel, the burgeoning economies of the developing world may seem to be the key trigger that fueled the rise in popularity of air travel over the past decade.

Level (Marks)	Knowledge, Application, Understanding, Analysis
L3 (8 – 10)	<p>Answer shows thorough understanding of question asked and demonstrated mastery of content to clearly and comprehensively (all three elasticity concepts brought up) answer the question.</p> <p>Only minor, non-critical errors allowed.</p>
L2 (5 – 7)	<p>Answer attempted to compare and rank at least two elasticity concepts in explaining the rise of budget airline popularity.</p> <p>Relevant causal factors were brought up and could pose as a decent argument in response to question asked.</p>
L1 (1 – 4)	<p>Answer shows some knowledge of how elasticity concepts could affect sales volume of budget airlines. Explanation is largely clumsy or inaccurately phrased.</p> <p>There may be basic errors in theory, in adequate explanations or contain only a few valid points. The answer could be mostly irrelevant or inaccurate.</p>
E3 (4 – 5)	Clearly worded justification on why ranking of elasticity concepts is as such. Convincing argument based on sound economic analysis, possibly also drawing insights from beyond the context tested.
E2 (2 – 3)	Attempt at justifying ranking of elasticity concepts but weak economic reason provided. Phrasing does not sound convincing. Certain degree of mastery of comparative analysis should be present.
E1 (1)	Merely a stand provided.

2.	A firm's level of profits tends to rise and fall with dynamic changes in the global economy.	
(a)	Explain whether a firm will continue to operate in the short run when faced with a rise in various types of costs.	[10]
(b)	Globalisation is likely to change the market structure a firm operates in and the level of its profits. Discuss.	[15]

Introduction

- Firms are assumed to be profit-maximising entities. To maximise profits, firms will seek to produce at the output level where marginal costs equals to marginal revenue.
- Firms can make super-normal, normal and sub-normal profits. Profits = TR – TC
- When faced with rising business costs in the short run, and assuming that total revenue remains the same, firms' profits will be reduced. In such a situation, the manager may need to decide one of the two options he has – to continue with the business or to close down.

Body

- The decision to continue or shut down depends on whether 1) $TR > TVC$ or 2) $TR < TVC$ respectively.
- A firm operating in the short run incurs two types of costs – TFC and TVC by hiring fixed and variable factors of production respectively.

A Rise in Total Fixed Cost

Suppose a firm initially earns \$2000 in total revenue, incurs \$1000 as fixed costs and \$400 as variable costs. It is earning \$600 super-normal profits. Assuming no change in total revenue and its variable cost, any increase in fixed costs will not result in a firm shutting down. It will continue its operation.

E.g. Assume a firm's fixed costs rise to \$1800. Despite incurring a loss of \$200 [$\$2000 - (\$1800 + \$400)$] now, the firm will not shut down. This is because its loss will be even greater (i.e. \$1800, the full, increased fixed costs) if it chooses to shut down.

Likewise, if its fixed costs rise to \$2200 (above its total revenue), it should still continue so as to incur lower loss of \$600 ($\[$2000 - (\$2200 + \$400)]$) than otherwise (i.e. \$2200, its full, increased fixed costs). This shows that changes in fixed costs do not affect a firm's decision to continue operation or shut down in the short run.

A Rise in Total Variable Cost

In another case, suppose the firm still earns \$2000 in total revenue, incurs \$1000 as fixed costs and \$400 as variable costs, a change in variable cost may lead the manager to shut the firm down.

E.g. A rise in variable costs to \$1400 will cause the firm to make a loss of \$400 [$\$2000 - (\$1000 + \$1400)$]. However, the firm should still continue its production as the loss (\$400) will be smaller than otherwise (\$1000, the full fixed costs).

On the other hand, if the variable costs rise from \$400 to \$2400, then the firm should shut down, as the loss of shutting down will be smaller (\$1000, the full fixed costs) than if it continues operating [$\$2000 - (\$1000 + \$2400) = \1400]. This shows that rise in variable costs does determine whether the firm should shut down or not.

CONCLUSION

- The manager needs to consider various factors when deciding whether to shut down or continue a business given a rise in costs. Rational behaviour dictates that he ought to continue with the business so long as doing so incurs lower losses.

Level (Marks)	Knowledge, Application, Understanding, Analysis
L3 (8 – 10)	<p>Answer shows thorough knowledge and an excellent ability to explain the consequences of a rise in TFC and TVC in terms of affecting a firm's decision to shut down when it incurs a loss. Full marks to be given when answer contains all of the following:</p> <ul style="list-style-type: none"> - Rise in TFC (regardless of amount) – this is to show the change in various types of cost - Rise in TVC (but still < TR) - Rise in TVC (but > TR)
L2 (5 – 7)	<p>Answer explains at most two out of the three bullets in L3.</p> <p>Answer demonstrates sufficient grasp of the question.</p>
L1 (1 – 4)	<p>High L1 given to an answer that shows some knowledge of shutdown condition but explanation is severely lacking or mistakes are aplenty/irredeemable.</p> <p>Low L1 given to an answer which is mostly irrelevant or inaccurate.</p>

(b)	<p>Introduction</p> <ul style="list-style-type: none"> - Globalisation is likely to exert certain influence on the market a firm operates in. Depending on the market's susceptibility to global influence in terms of barriers to entry, the product type as well as the number of buyers, the firm in question may find itself operating in a different market structure, and earning different levels of profits, should the economy be subjected to greater globalisation forces. <p>Body</p> <ul style="list-style-type: none"> - The <u>market structure</u> a firm operates in is determined by the following characteristics: <ul style="list-style-type: none"> o Barriers to entry o No. of buyers and sellers o Nature of products (unique or substitutes) <p><u>For example</u>, In the Singapore bakery market, a few local bakeries hold significant market share e.g. BreadTalk, Bengawan Solo and Prima Deli. The bakery market could be said to be operating under an oligopolistic market due to</p> <ul style="list-style-type: none"> o its relatively high BTEs (strong brand and product quality, high market dominance) o mutual dependence (offering discounts and new flavours at the same time) o few sellers (not many competitors selling premium quality bakery products). <ul style="list-style-type: none"> - Globalisation brings with it the <u>removal of barriers across borders</u>. Such barriers relate to labour, technology, capital and goods and services. - Thus, a greater degree of globalisation allows: <ul style="list-style-type: none"> o Foreign competitors to compete with domestic producers in the domestic markets. o Domestic firms can also expand their market by exporting their goods and services to external markets or even set up firms in the foreign market. o Domestic firms may also import cheaper factors of production from overseas <p><u>Thesis: Globalisation changes market structure and profits</u></p> <ul style="list-style-type: none"> - With the changing taste & preferences, desire for more choices of the buyers as well as the encouragement of FDI by the government, new players emerge (Paris Baguette, Duke's Bakery, Chateraise, Bread Society, etc) in recent years to compete with local bakeries for a share of the market. - Even smaller local bakeries also sought to upgrade themselves in order to stay competitive (Swee Heng, Tiong Bahru Bakery) in face of stronger competitors from overseas.
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- If the larger bakeries are unable to hold up their brand by ensuring the price and non-price competitiveness of its bread, they will increasingly lose their market share.
- The presence of more foreign competitors means that there are more sellers. As each previously oligopolistic firm loses its market share, the bakery market structure may change from an oligopolistic to a monopolistically competitive one.
- While the local bakeries may lose its domestic market share, they may gain market share in foreign markets and eventually earn higher revenue. For example, Breadtalk has realised expansion plans in bigger foreign markets such as China and Indonesia. Given that these markets are much bigger than the local Singapore's market, the demand (i.e. AR curve) that Breadtalk faces will now be much higher than if it did not expand overseas.
- The same is being observed with Prima Deli. It has also expanded overseas in countries such as Australia and Philippines by not just selling confectioneries but also baking ingredients and ready to cook meals.
- With larger output, Breadtalk and Prima Deli will also be able to enjoy significant IEOS.
- All these will result in higher profits for both firms.

Anti-thesis: Globalisation does not change market structure and profits

- Certain markets will remain unaffected by the wave of globalisation.
- These markets could be protected by the government as they are considered either as 1) strategic industries (e.g. Japan's car manufacturing firms) or 2) relate to national security (Lockheed Martin providing military aircraft and equipment to the USA govt).
- In other case, it could be due to the immobility of factors of production. E.g. provision of goods and services which cannot be duplicated by others (travel services to visit Mt Fuji in Japan).
- As such, the characteristics of such markets may not change even when a country gets more globalised. The market structure in which a firm operates prior to the wave of globalisation will likely remain relatively unchanged.
- Accordingly, the change in profits may also be due to other factors and not just globalisation.
- E.g. disruptive technology and smart urban planning can change the way people travel and reduce people's demand for privately owned cars. This may reduce the demand for cars world-wide in general. In this case, despite government's protection, car manufacturers in Japan may not be able to continue to earn significant supernormal profits.
- E.g. Mt Fuji erupts and makes any visits unsafe.
- Despite the wave globalisation, certain firms could still act strategically to protect their market share from being eroded. Apple and Samsung had been the world leaders of the smartphone market. After more than a decade, during

	<p>which many smartphone makers have also entered the fray after tapping on the technology in producing smartphones, Apple and Samsung are still arguably the world leaders.</p> <ul style="list-style-type: none"> - The main reason could be the <u>continual raising of barriers to entry by Apple and Samsung</u> (highly innovative hardware and software offerings over the decade) in order to entrench their lead in this market. As such, globalisation of ideas/technology continued to allow Apple and Samsung to take advantage of and develop sufficient arsenal to defend their position in this market. 								
	<p>Conclusion</p> <ul style="list-style-type: none"> - With the relentless search of ever lower COP and market outreach, successful and entrepreneurial firms will ride on the wave of globalisation to fully realise their potential profits. In so doing, competition in the markets tend to rise and even a monopoly may end up facing fierce competitors in due course throughout most part of the world. - While it is true that such a day will come for most markets, that day may require differing amount of time depending on the complexity of goods/services sold and the profile of the consumers. The more complex the goods/service and finicky the consumers are, the longer it will take for globalisation to transform the competition landscape of the market existing firms operate in. 								
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	E3 (4 – 5)	Strong conviction of the stand provided, largely based on sound economic argument/reasoning having considered the relevant situations. Best answers will contain real-life scenarios to support stand taken.
	E2 (2 – 3)	Attempt at providing a simple justification of the stand and may or may not be based on economic argument/reasoning. Reasoning may be flawed or unconvincing.
	E1 (1)	Merely a stand provided.

3.	<p>In the US and UK, public libraries have been facing cuts in government funding and there is a rise in the number of public library closures. In Singapore, the National Library Board (NLB) has been revamping old libraries and opening new ones. In 2017, the government provided an operating budget of \$246.97 million to NLB.</p>	
	<p>Explain whether governments should fund public libraries and discuss the factors that governments should consider when allocating resources to public libraries.</p>	[25]
	<p>Introduction</p> <ul style="list-style-type: none"> • Government usually intervenes when market fails. <p>Body</p> <ul style="list-style-type: none"> • Public library services could be merit goods. Governments of some countries deem it as being under-consumed due to positive externalities and imperfect info of full private benefit of library services • Positive externalities of public library services <ul style="list-style-type: none"> ○ E.g. People who access public library services such as books-related activities, wifi and reference books usually can improve their literacy, social and intellectual developments. They become more literate. Higher literacy rate can result in more economic development benefiting 3rd parties such as firms and government in terms of higher profits and tax revenue → external benefits • External benefits cause divergence in MPB and MSB → private consumption of library services lower than social optimal level. • Imperfect info of MPB means even lower private consumption level than socially optimal • Subsidies help to increase the level of library services consumption by internalising the external benefit • In developing countries or even in developed countries where there are poor communities, the private consumption of public library services may be much lower than socially optimal level. <p>Governments can allocate resources to public libraries in the form of subsidies, direct provision and campaigns to encourage people to go to the libraries. However, when allocating any resources to public libraries, government may want to consider factors such as:</p> <ul style="list-style-type: none"> • <u>Objectives of government</u> <ul style="list-style-type: none"> ○ Subsidies bring about allocative efficiency if public library is indeed deemed as a merit good → increase consumption of public library services ○ Subsidies improve equity ; for greater access by the lower income → brings down the MPC of public library services or brings up the MPB of public library services. ○ E.g. In Singapore, full subsidy is given to the public. Government deemed library as an important merit good. There is huge DWL if not subsidy is given. 	

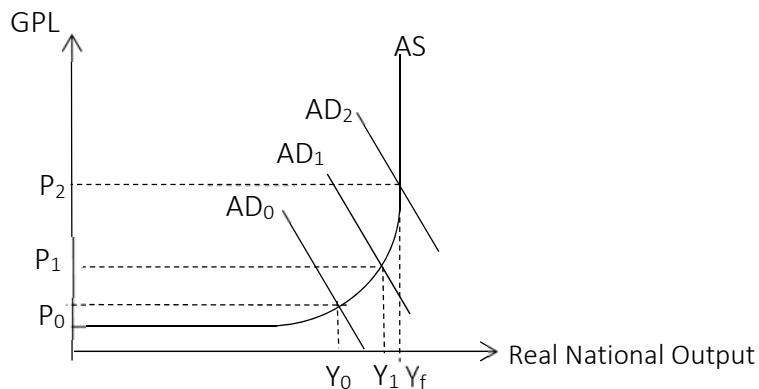
- **Effectiveness of policies** to achieve objectives e.g. MEB hard to calculate so may be hard to decide how much to subsidise in cases where partial subsidies are more appropriate
- **Changing levels of external benefits** that public library brings about, hence changing levels of subsidies.
 - Overtime, the marginal external benefit that the public library brings may become lower due to obsolescence of the resources and alternative ways of reading and accessing books through e.g. E-library. So MSB become lower.
 - Obsolescence of library resources can reduce the MEB of libraries since knowledge gained becomes irrelevant to 3rd parties when perhaps shared by readers.
 - E-library offers more up to date resources that are riding the reading trends/ interest/ needs of the nation. In this case 3rd party benefits may be higher since relevant info could be shared by readers with 3rd parties.
 - The MSB of “brick and mortar” public library services falls and reduces the socially optimal level of public library services.
 - Hence level of resources allocated to public library will naturally fall.
 - In US and UK, government chose to close public libraries since their relevance have fallen; in Singapore government chooses to revamp old ones so that libraries continue to be relevant
- **Resource scarcity / Budget constraint** and need to re-prioritise → closing down libraries. E.g. Land previously occupied by libraries need to be developed for housing, commercial purposes.
- Over time has readership and literacy rates improve in countries, it could mean that the level of library services privately consumed have already met the socially optimal level → no need for government intervention at all.

Conclusion

- Whether/how government allocated resources typically depends on its objectives to achieve, cost/benefits (effectiveness of interventions, changing needs/circumstances).
- No fixed factors to consider. Differs between countries and over time
- Therefore, US and UK chose to close down whereas, Singapore decides to increase resources.

L3	Ability to describe the different factors that different government may consider when allocating resources. Answer is supported with thorough knowledge of theories and relevant policies. There are good comparisons on the different approaches by different government	15 – 20
L2	Ability to describe the factors that government may consider when allocating resources. Answer is supported with knowledge of theories and relevant policies, but with some error in analysis	9 - 14
L1	The answer shows some knowledge but does not indicate that the meaning of the question has been properly grasped. Basic errors of theory or inadequate development of analysis.	1 - 8
E3	For an answer that critically build on the analysis and answers the question. There is a well-reasoned judgement (as required by the question)	4-5
E2	For answer that makes some attempt at evaluation and conclusion that answers the question.	2-3
E1	For answer that gives an unsupported evaluative statements.	1

4.	Discuss the extent to which conflicts in government macroeconomic objectives limit the scope for the use of macroeconomic policies.	[25]
	<p>Introduction:</p> <p>Government's macro objective are to achieve the following:</p> <ul style="list-style-type: none"> • Stable economic growth • Low and stable inflation or price stability • Low and stable unemployment rate • Favourable BOP <p>Body:</p> <p>Thesis</p> <p>Depending on the objectives and issues faced, government can choose a range of policies to meet objectives and address macroeconomic issues. However, in achieving its macroeconomic goals, government may face potential trade offs.</p> <p>Depreciation of currency to boost (X-M) & address Balance of Payments (BOP) deficit → increases economic growth but increases inflation rate.</p> <p>Depreciation causes exports to be cheaper in foreign currency and imports to be more expensive in domestic currency. Quantity demanded for exports by foreign countries increases whereas quantity demand for import by domestic country decreases. Assuming the Marshall- Learner condition holds (i.e. $PED_x + PED_m > 1$), there will be an increase in net export revenue. An improvement in net export revenue will improve the Balance of Payments</p> <p>At the same time, as net exports increases, AD increase. If there is no increase in AS and economy is near full employment of output, the boost in economic growth will demand pull inflation.</p> <p>Expansionary Fiscal Policy and Monetary Policy→ increase growth but higher inflation rate and possibly BOT deficit due to increase M</p> <p>Expansionary fiscal policy is a demand-side policy that seeks to increase C and I by reducing income and corporate tax respectively, as well as to increase G. On the other hand, expansionary interest rate centred monetary policy will increase C and I as the cost of borrowing is reduced with a lower interest rate. C, I and G will increase AD. If there is no increase in AS and economy is near full employment of output, the boost in economic growth will demand pull inflation.</p> <p>As seen in figure below, the increase in AD from AD₀ to AD₁ to AD₂ without an increase in AS, has resulted in an increase in real GDP from Y₀ to Y_f while general price levels have increased sharply from P₀ to P₂, a demand-pull inflation.</p>	



Economic growth (resulting in a reduction of unemployment) in the economy may have an undesirable impact on a country's Balance of Payments position. As income rises, consumer spending tends to rise. This is because assuming that the average individual earns more and has higher purchasing power, consumers will purchase more goods and services including imports, resulting in a rise in import expenditure.

The rise in import expenditure may have negative consequences on a country's trade position. An increase in import expenditure, assuming no changes in export revenue, is likely to cause a worsening of the country's balance of trade and may worsen the position of its current account ceteris paribus. If there are no changes in its capital and financial account as well, this could worsen a country's balance of payment position.

In the event that economic growth results in higher prices of domestic goods and services, this might erode export competitiveness, if the inflation rate in the country is higher than in trading partner countries. Assuming that the demand for exports is price elastic, this would cause a more than proportionate fall in quantity demanded of the country's exports causing export revenue to decrease.

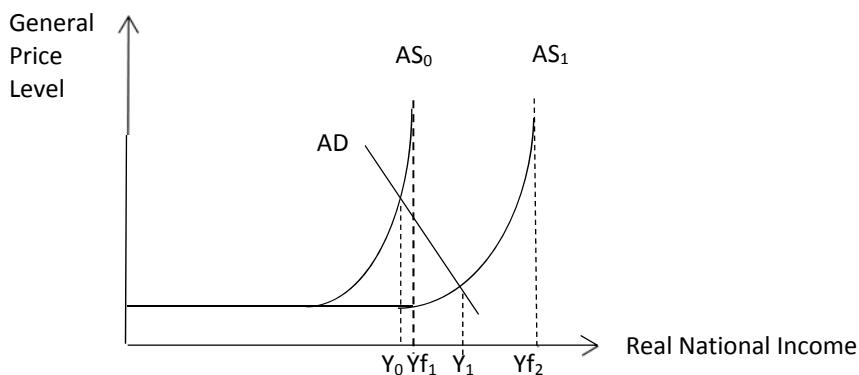
The increase in import expenditure and a fall in export revenue due to the loss of competitiveness of domestic goods is likely to cause a worsening of the country's balance of trade and worsen the position of its current account, ceteris paribus. If there are no changes in its capital and financial account as well, this could worsen a country's balance of payment position.

In addition, the increase in import expenditure and fall in export revenue will cause a net increase in supply of domestic currency in the foreign exchange market, assuming ceteris paribus, resulting in a depreciation of the country's currency.

LR ss-side policies to prevent further dd-pull inflation can cause unemployment

LR supply side policies often involve improving the quality, quantity of factors of production and the adoption of new technology. For example, workers are encouraged and given financial support to undergo training to upgrade their skills, firms also given financial supports to adopt new technology to make their production process more efficient and productive. LR supply side policies can bring about underlying shift in the structure of the economy, e.g: shift away from the development of labour intensive industries to capital intensive industries – where more skilled labour is required. This makes it difficult for certain segments of the population, who are unable to upgrade their skills, to find jobs. Structural unemployment can thus happen in manufacturing industries, where sophisticated machinery has been replacing workers. If the workers are unable to get the training in the use of these machinery to get jobs in the same factories they worked in before, they will become unemployed. A mismatch of skills between the unemployed and the skills required by producers seeking factors of production causes structural unemployment unless the workers are retrained and are equipped with the relevant knowledge, skills and expertise to be absorbed into the newly developed sector.

Alternatively, as shown in the figure below, when there is an increase in aggregate supply from AS_0 to AS_1 without a corresponding increase in AD , the economy experiences both actual growth (shown by the increase in real national income from Y_0 to Y_1) and potential growth (shown by the increase in productive capacity from Yf_1 to Yf_2). As firms increase their production, there is an increase in demand for factors of production, including labour. However, the number of jobs created (as a result of the increase in productive capacity) can also exceed the increase in demand



for factors of production (as a result of an increase in production). The economy is now producing further away from full employment and hence there is greater unemployment in the economy.

Such trade-offs may limit the use of the policies, especially if the trade-offs are also goals that govt wishes to maintain.

Anti-thesis:

However, limitations do not arise just because there are macroeconomic trade offs. The policies themselves may be limited due to other reasons. In some cases, outcomes of macroeconomic policy may even complement each other.

Domestically driven vs externally driven economy

For small, resource scarce and open economies, e.g. Singapore demand side policies (e.g. Fiscal policy and interest rate centred monetary policy) that focus on stimulating the domestic components of AD may not work effectively. Given Singapore's small population and a small multiplier, injection must be sufficiently large before achieving significant improvement in economic growth and employment.

As such Singapore chooses to rely on exchange rate policy (adopting an appreciating stance) to ensure that price of imported raw material in domestic currency (S\$) are priced low. This ensures that cost of production for goods/services for both domestic consumption and exports are price competitive.

The impossible trinity

In some cases, the combination of policies that countries choose may also limit the scope for the use of macroeconomic policies. Using Singapore as a case again, given our reliance on trade and the desire for free capital mobility, the use and control over interest rate centred monetary policy is lost. Hence, Singapore, cannot use interest rate centred monetary policy to stimulate domestic components, particularly I and C of the AD.

Economic Outlook

Poor economic outlook generally limit the scope of use of macroeconomic policy. Expansionary demand-side policies may not be effective when consumers and firms expect that economy may shrink. Rather than spending, they may save. This reduces C and I respectively.

In Japan, decades of poor economic outlook resulted in a liquidity trap, where interest rates have been reduced to a level where they cannot be further lowered. Despite so, the increase in C and I are still not picking up.

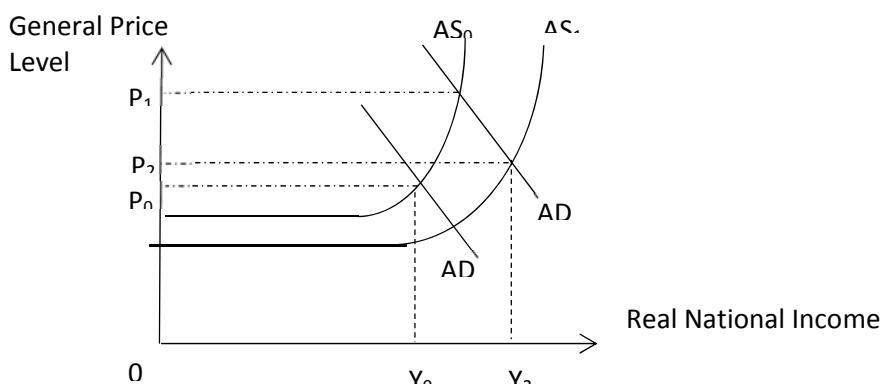
Globalisation

The rise of globalisation has meant that economic shocks from one part of the world can quickly spread around the global economy. The 2008 financial crisis is a case in point. The interconnectedness of the global economy creates problems for domestic policy makers as the source of inflation or unemployment may be the global economy, and beyond the control of domestic governments. In this case, global cooperation may be needed rather than having each country relying on its own macroeconomic policies. For example, officials from different nations may need to meet to evaluate the world's economic conditions and come up with solution collectively.

Outcomes of macroeconomic policies complement each other

While there are possible conflicts in macroeconomic goals, there are also instances where the attainment of a given macroeconomic goals may bring about the achievement of another. For example - long term economic growth may result in low and stable inflation given an increase in productive capacity.

The key for all economies is striving not just for strong or high economic growth, but long term economic growth (both actual and potential growth). No country can rely solely on stimulating aggregate demand (AD) to achieve long terms economic growth. Once the economy reaches full employment, any increases in AD will not result in any actual economic growth but just increases in general price levels (from P_0 – P_1) as reflected in figure below.



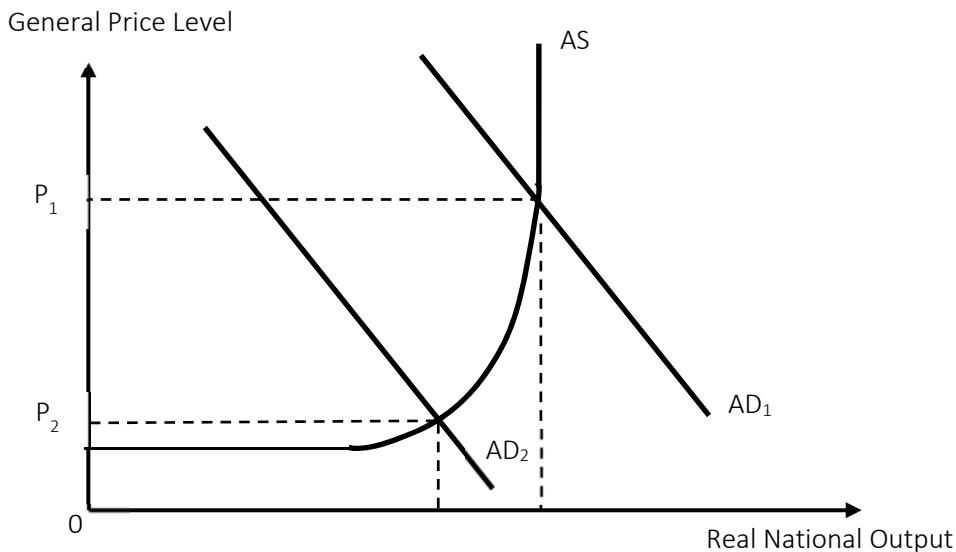
Demand-side policies to achieve growth need to be complemented with supply-side measures to prevent the economy from overheating and inflationary pressures from setting in. When a country focuses on achieving potential economic growth by increasing AS in the long run (from AS_0 – AS_1), it will be able to expand AD and also keep inflationary pressures low by preventing the GPL from rising too quickly. The resultant overall rise in GPL is from P_0 to P_2 . Real national income increases

Conclusion

- To a large extent, possible trade offs of macro policies should not limit the use of macro policies. More importantly, it is the cause of the issues and the presence of specific conditions that may determine whether polices should be used or not.
- Yet, this view may not be subscribed by all.
- Countries may place more emphasis on trade-offs under special circumstances e.g political consideration. While others may be able to accept the trade-off and consider the different conditions that need to be present for a policy to be implemented.

L3	A thorough knowledge of theories and policies. Ability to describe the conflicts of macro objectives, given the implementation of a macroeconomic policy in a precise, logical and reasoned manner.	15 – 20
L2	There should be evidence of knowledge of theories and policies relating to conflicts or macro objectives, given the implementation of a macroeconomic policy. Answer is relevant but explanation may be incompletely explained.	9 - 14
L1	The answer shows some knowledge but does not indicate that the meaning of the question has been properly grasped. Basic errors of theory or inadequate development of analysis.	1 - 8
E3	For an answer that critically build on the analysis and answers the question. There is a well-reasoned judgement (as required by the question)	4-5
E2	For answer that makes some attempt at evaluation and conclusion that answers the question.	2-3
E1	For answer that gives an unsupported evaluative statements.	1

5.	(a) Explain how a country's deficit on its balance of payments could affect its standard of living.	[10]
	(b) Discuss how best a government should address potential concerns arising from a persistent deficit on its balance of payments.	[15]
	<p>(a)</p> <p>Introduction</p> <p>The Balance of Payments (BOP) is a summary record of all the international transactions between the residents of a country and the rest of the world over a period of time, usually one year. The BOP is made up of the Current Account (CA), Capital and Financial Account (KFA) and the Official Reserves Transaction Account. A BOP deficit occurs when the total international receipts of a nation from abroad are less than its total international payments to abroad over a period of time. This could happen when there is a deficit in the CA or in the KFA or in both.</p> <p>Body</p> <p><i>Negative Impact on SOL</i></p> <ol style="list-style-type: none"> 1. A balance of payments deficit can have a contractionary effect on the economy. For example, a balance of payments deficit caused by a CA deficit brought about by a fall in export earnings and rise in import expenditure reduces the level of aggregate demand. 2. Assuming the economy is at or near full employment, this fall in aggregate demand, <i>ceteris paribus</i>, will cause a fall in national output from Y1 to Y2, a fall in general price level from P1 to P2 and an increase in unemployment due to lower output levels as illustrated in Figure 1. Eventually, the initial fall in net exports will result in a greater decrease in national income through the multiplier process, leading to negative economic growth. <p>The fall in national income will induce a fall in consumption by households because household incomes have fallen thus they have lower purchasing power. A lower level of consumption of goods and services could lead a reduction in households' current material standard of living.</p>	



3. If households feel pessimistic about the economic outlook, they may decide to save more in anticipation of the possibility of a further reduction in income in the future. This uncertainty and anxiety could also affect **non-material standard of living**.
4. A fall in investment level and production level will lead to rising unemployment in the economy, as firms reduce their demand for labour and other factors of production. Unemployed workers might face anxiety and stress if they continue facing difficulties in looking for a job. As their household income falls, both their **material and non-material standard of living** might worsen.
5. If the BOP deficit was due to a deficit in the KFA arising from a fall in FDI and foreign investors pulling out FDI from the country, LRAS might shift to the left, reducing the productive capacity of the economy. This would negatively affect **future standard of living** as the potential output of the economy decreases.
6. Under a flexible/managed float exchange rate regime, a persistent balance of payments deficit will result in a depreciation of the country's currency as this would lead to a fall in the demand for and an increase in the supply of the domestic currency in the foreign exchange market. With the depreciation, imported inflation may result if the economy is heavily dependent on imports, leading to higher cost of living. This would affect consumers' purchasing power and hence negatively affect their **material standard of living**.
7. If the BOP deficit was due to a CA deficit caused by huge quantities of undesirable imports such as tobacco, alcohol and drugs, the non-material standard of living might be affected.

Positive Impact on SOL

1. However, if the BOP deficit was due to large import expenditure on consumer goods that outweigh export revenue, consumers might be enjoying a wide variety of imported goods. This might, in the short run, lead to an increase **in current non-material standard of living**.
2. If the BOP deficit was due to large import expenditure on capital goods, the LRAS might shift to the right, bringing about potential growth. For example,

	<p>developing countries might import machines and technology to increase production. The increase in productive capacity means that the future standard of living would increase as the potential amount of goods and services that can be produced and enjoyed in the future would increase.</p> <ol style="list-style-type: none"> 3. Unemployed workers might see an increase in leisure time which might improve their non-material standard of living temporarily, as they spend more time with family and friends, reducing the stress levels related to work. 4. The fall in economic activity in the economy might also lead to a fall in pollution levels as factories reduce their production levels and hence, their emissions. This might also lead to improvement in non-material standard of living. 				
	<p>Conclusion</p> <p>To conclude, how standard of living is affected by the BOP deficit would depend on what caused the BOP deficit. Also in the short run, there might be some positive impact on standard of living, especially in the non-material aspect. But in the long run, a persistent BOP deficit is likely to negatively impact standard of living.</p>				
	<p>Mark Scheme</p> <table border="1"> <tr> <td style="text-align: center;">Level 3 8 - 10</td><td> <p>Answer shows thorough knowledge and an excellent ability to explain the consequences of a BOP deficit and its impact on SOL in a precise, logical and reasoned manner. The answer recognises all of the following:</p> <ul style="list-style-type: none"> - A BOP deficit could both positively and negatively impact SOL - A BOP deficit could affect both material and non-material SOL OR current and future SOL <p>Note for markers: For full 10m, the answer should recognise BOP deficit could affect material and non-material SOL AND current and future SOL.</p> </td></tr> <tr> <td style="text-align: center;">Level 2 5 - 7</td><td> <p>Answer explains the consequences of a BOP deficit but might not have made clear links to SOL.</p> <p>Answer is mostly accurate but there may be undeveloped explanation of facts and theory.</p> <p>Answer has achieved some balance (e.g. considers material and non-material aspect of SOL, or positive and negative impact on SOL, or current and future SOL)</p> </td></tr> </table>	Level 3 8 - 10	<p>Answer shows thorough knowledge and an excellent ability to explain the consequences of a BOP deficit and its impact on SOL in a precise, logical and reasoned manner. The answer recognises all of the following:</p> <ul style="list-style-type: none"> - A BOP deficit could both positively and negatively impact SOL - A BOP deficit could affect both material and non-material SOL OR current and future SOL <p>Note for markers: For full 10m, the answer should recognise BOP deficit could affect material and non-material SOL AND current and future SOL.</p>	Level 2 5 - 7	<p>Answer explains the consequences of a BOP deficit but might not have made clear links to SOL.</p> <p>Answer is mostly accurate but there may be undeveloped explanation of facts and theory.</p> <p>Answer has achieved some balance (e.g. considers material and non-material aspect of SOL, or positive and negative impact on SOL, or current and future SOL)</p>
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	<p>Note for makers:</p> <p>As long as any one type of balance is recognised, the answer can be awarded L2.</p> <ul style="list-style-type: none"> - Answer explains both positive and negative impact on SOL - Answer explains impact on both material and non material aspect of SOL - Answer explains impact on both current and future SOL
Level 1 1 - 4	Answer shows some knowledge of BOP but might not have recognised that the question is on the consequences of a BOP deficit. There may be basic errors in theory, in adequate explanations or contain only a few valid points. The answer could be mostly irrelevant or inaccurate.
(b)	<div style="border: 1px solid black; padding: 10px; margin-bottom: 20px;"> <p>Identify concerns arising from BOP deficit (link to answer in (a) which would have identified the consequences of a BOP deficit)</p> </div>  <div style="border: 1px solid black; padding: 10px; margin-bottom: 20px;"> <p>Discuss policies to deal with the concerns (Explain how they work and evaluate them)</p> </div>  <div style="border: 1px solid black; padding: 10px;"> <p>Conclude that the best policies to adopt would depend on the root cause of the BOP deficit</p> </div>

Introduction

In view of the possible detrimental effects on the macro-economy and hence, standard of living, as explained in (a), governments generally adopt the following types of policies: (i) Expenditure-Reducing Policies, (ii) Expenditure-Switching Policies, (iii) Supply-Side Policies, to improve the BOP so as to address potential concerns.

Body

Policy #1:

Cause of BOP Deficit:

CA deficit due to rising import expenditure (in excess of export revenue), *because of rising domestic incomes*

Concern Arising from BOP Deficit:

Currency Depreciation which might lead to imported inflation

Assumptions about the economy:

- Economy is operating at full employment level
- Economy is under a flexible/managed float exchange rate regime

An expenditure reducing policy aims to reduce the demand and limit spending on imports by reducing overall expenditure in the economy. This results a fall in aggregate demand and in turn, national income falls. When national income falls, the demand for imports will also fall, since import expenditure is income induced. This in turn reduces the balance of payments deficit.

For example, contractionary fiscal policy might be adopted. Taxes (e.g. personal income taxes, corporate income taxes) might be raised and government expenditure reduced. An increase in personal income taxes will lead to a fall in disposable income. This will lead to a fall in the level of consumption expenditure (C). An increase in corporate income taxes will lead to a fall in post-tax profits which results in a fall in the level of investment (I).

The fall in the level of government expenditure (G), consumption expenditure (C) and investment expenditure (I) will reduce the level of aggregate demand (AD), resulting in a fall in national income. This will induce a fall in demand for imports, hence leading to a fall in total import expenditure. Balance of trade and current account deficit would thus be reduced, thereby improving the overall BOP position.

In the longer term, the reduction in AD is deflationary and would reduce the general price level especially if the country is near full employment level of income. The downward pressure on general price level improves the price competitiveness of exports and increases demand for exports.

Assuming the demand for exports is price elastic, a rise in export earnings will reduce the balance of trade and current account deficit, hence improving the overall BOP position in the long run.

Evaluation

However, this policy would not be appropriate if the economy was not operating at full employment and there are concerns about falling national income and rising unemployment. This policy would further worsen these concerns.

Policy #2 (to address concerns of falling national income, rising unemployment due to a fall in demand for exports):

Cause of BOP Deficit:

CA deficit due to rising import expenditure (in excess of export revenue), *because of increasing price competitiveness of imports relative to domestic goods.*

Concern Arising from BOP Deficit:

Fall in AD, national income and employment levels

Assumptions about the economy:

Economy is NOT operating at full employment level

The aim of this policy is to change the relative price of domestic goods and foreign goods (imports) so that people will substitute foreign goods with domestic goods.

An example of such a policy is to depreciate the currency. This would make country's exports cheaper in terms of foreign currency and imports more expensive in terms of the domestic currency. Since imports are more expensive in domestic currency, people will switch away from imports to consume more domestically produced goods and services. At the same time, this makes exports more competitive and the demand for exports would rise.

Assuming Marshall Lerner condition (i.e. $PEDX + PEDM > 1$), balance of trade and current account deficit would be reduced, thereby improving the BOP position.

Evaluation

However, this policy might not be appropriate if there are concerns about inflation in the economy. Currency depreciation would result in imported inflation (especially if the country is highly dependent on imported raw materials) and could also lead to demand-pull inflation as AD increases.

This policy would also only be appropriate if Marshall Lerner condition holds. If the demand for both their exports and imports were very price inelastic and the summation of elasticities was less than 1, then the BOP would not improve.

Currency depreciation should also be a short term policy because a continual fall in the value of the currency could lead to a fall in investor confidence, resulting in a withdrawals of FDI. This would worsen the KFA deficit and also lead to a fall in LRAS, worsening the initial concerns of slower actual and potential growth.

Policy #3 (to address concerns of falling national income, rising unemployment, falling productive capacity due to a lack of competitiveness):

Cause of BOP Deficit:

KFA deficit due to a fall in attractiveness of country as a destination for FDI, *possibly because of falling labour productivity*

CA deficit due to fall in export revenue, *because of falling competitiveness of exports, possibly due to falling labour productivity*

Concern Arising from BOP Deficit:

Fall in AD, national income and employment levels

Fall in LRAS

Assumptions about the economy:

Economy is NOT operating at full employment level

For example, investment in training could improve the quality of the labour force and raise the labour productivity and hence lead to a rise in LRAS. Government could provide subsidies to encourage firms to upgrade the skills of their workers. Assuming the increase in labour productivity brings about a fall in per unit labour cost, cost of production decreases and this causes an increase in SRAS. This would bring about a fall in the general price level of domestically produced goods and services and in turn lead to a rise in the price competitiveness of exports. Additionally, the quality of exports might also rise due to innovation arising from a higher quality labour force. This will increase export revenue and reduce the current account deficit. Furthermore, as domestically produced goods and services are more attractive relative to foreign goods and services. There could be a reduction in import expenditure as consumers switch from imported goods and services to domestic goods and services. The balance of trade and current account deficit will be reduced.

At the same time, foreign investors might be encouraged to invest because of the high labour productivity, this would also increase LRAS as well as improve the capital and financial account, improving the BOP position.

Evaluation

Supply-side policies are not easily implemented as firms might not be willing to send workers for training as there will be loss of output during training. Firms may also underestimate the true benefits of education and training. Hence, the amount of training undertaken may be less than socially optimal. Workers also face difficulties in learning new skills, especially the older workers. In most cases, the government needs to increase its spending on subsidies on training and incentives for research and

development. As such, these policies can drain the government's resources, diverting resources away from other areas of competing needs.

There is a time lag in the implementation of supply-side policies, which may compromise its effectiveness as economic conditions are very dynamic.

Conclusion

The best policies a government should adopt to address potential concerns arising from the deficit would depend on the root cause of the deficit. Depending on the root cause of the deficit, the concerns arising from a BOP deficit could be very different.

If the BOP deficit is persistent and is a result of a loss of competitiveness of a country, both in terms of its exports as well as its attractiveness for FDI, structural changes might be required in the economy. Otherwise, the detrimental effects on actual and potential growth, and current and future SOL, as outlined in (a), would be a serious cause for concern. In such instances, supply-side policies to improve productivity would likely be the best policy. Expenditure reducing policy would not be appropriate as it would further reduce actual growth. Expenditure switching policy could help in the short term but would probably not be sustainable in the long run. Taking the example of currency depreciation, it would not be possible for a currency to keep depreciating as investors might lose confidence in the economy, causing further withdrawals of FDI.

However, if the BOP deficit is due to large import expenditure on capital goods, then as outlined in (a), there might not be a cause for concern as the country's productive capacity might grow. This could lead to an increase in export competitiveness in the future as prices fall and quality increases. Similarly, if the BOP deficit is due to large amounts of local firms investing overseas, thus leading to a net outflow of FDI, in the long run, these investments may yield positive returns and eventually there will be receipts of interest, profits or dividends from investments abroad, resulting in an eventual currency inflow in the current account. In these cases, the government might choose not to adopt any policy to correct the BOP deficit.

Level 3

8 - 10

Answer shows thorough knowledge and an excellent ability to explain at least 2 policies to correct a BOP deficit, in view of the specific concerns arising from the deficit. There should be a clear explanation of how the policy would address those concerns and hence, a recognition that the best policy would depend on the cause of the BOP deficit.

Answer should have demonstrated balance by discussing how the policies could work well to correct BOP deficit but at the same time, have limitations.

	<p>The arguments should be made in a precise, logical and reasoned manner.</p> <p>Note for makers:</p> <p>For top L3 marks (i.e. 10marks), the answer must have discussed 3 policies.</p>
Level 2 5 - 7	<p>Answer explains policies to correct a BOP deficit but might not have made clear links to how each policy addresses specific concerns arising from the deficit.</p> <p>Answer is mostly accurate but there may be undeveloped explanation of facts and theory.</p> <p>Answer has achieved some balance (e.g. discussed how a policy might work well as well as recognised its limitations or discussed how different policies work for different causes of a BOP deficit)</p> <p>Note for makers:</p> <p>For top L2 marks (i.e. 7marks), the answer must have discussed at least 2 policies which address different causes of a BOP deficit and discussed some limitations of the policies.</p>
Level 1 1 - 4	<p>Answer shows some knowledge of macroeconomic policies. There may be basic errors in theory, in adequate explanations or contain only a few valid points. The answer could be mostly irrelevant or inaccurate.</p>
E3 4 - 5	<p><i>There is a critical evaluation of the policies discussed and economic arguments are synthesised to arrive at well-reasoned judgements in a good summative conclusion.</i></p> <p><i>There is recognition that the best policies would depend on the concerns arising from the BOP deficit, which in turn, depends on the cause of the BOP deficit.</i></p>
E2 2 - 3	<p><i>There is some attempt at evaluation or a summative conclusion.</i></p>

		<i>While the judgement is relevant to the question, it may not be well-explained or based on relevant analysis</i>	
	E1 1	<i>Unsupported or unexplained evaluative statement(s) or judgements are made.</i> <i>Note to markers: As long as there is attempt to explain limitations of a policy, even if there is no summative conclusion, give 1m.</i>	

6.	"Rising protectionism in the West has become a threat to Asia's prosperity." Tommy Koh, ambassador-at-large for Singapore's Ministry of Foreign Affairs.		
(a)	Explain why protectionism exists.	[10]	
(b)	Discuss whether the Singapore government's approach towards international trade should be adjusted in view of rising worldwide protectionism.	[15]	
	<p>(a)</p> <p>Introduction</p> <ul style="list-style-type: none"> • Define protectionism: <i>Protectionism is the act of imposing trade barriers to shelter domestic firms from foreign competition.</i> • Give a short preview of essay: <i>Countries may engage in protectionist policies such as imposition of tariffs and quotas for various purposes. There are several arguments for protectionism that are practised worldwide.</i> <p>Body</p> <ul style="list-style-type: none"> • Explain any 3 arguments for protectionism <ul style="list-style-type: none"> ○ Correct Balance of Trade deficit [e.g. US vs China: solar panels] <ul style="list-style-type: none"> ▪ Balance of trade deficits occur when a country's total expenditure exceeds its total earnings in its external trade. This can be caused by importing too much and is undesirable as it leads to a depletion of foreign currency reserves. Balance of payments deficit caused by balance of trade deficits would lead to leakage from the economy. ▪ Thus, the government may try to reduce import expenditure to correct the balance of trade deficit by restricting imports. Assuming initially a balance of payments deficit, when the balance of trade deficit is reduced, the country's balance of payments deficit will decrease as well. ○ Protect sunset industries <ul style="list-style-type: none"> ▪ Certain industries in a country may decline because of a decline in the global demand for their product or because of loss of their comparative advantage due to technological progress or increase in competition from other countries. An example is the decline of the British cotton textile when man-made fabrics such as polyester and rayon came into the market. Workers in these industries became redundant and needed re-training in order to find jobs in other industries. Without slowing down the decline of the industry, there might be a sudden, rapid and massive increase in unemployment in the economy. This could also have negative psychologically effect on the labour force. This point is especially important for economies where industries that are in decline employs a significant proportion of the labour force and these workers might be 		

occupationally immobile. Under such circumstances, temporary protectionism such as import controls may help to slow down the rate of these industries shutting down and allow more time for affected workers to go for skill training.

- Protect infant industries [e.g. steel in the US]
 - Allow sunrise industries to gain competitiveness in the global market. Gain EOS before allowing foreign competition
- Prevent dumping [e.g. Aluminium from China into India]
 - Certain industries in a country may decline because of a decline in the global demand for their product or because of loss of their comparative advantage due to technological progress or increase in competition from other countries. An example is the decline of the British cotton textile when man-made fabrics such as polyester and rayon came into the market. Workers in these industries became redundant and needed re-training in order to find jobs in other industries. Without slowing down the decline of the industry, there might be a sudden, rapid and massive increase in unemployment in the economy. This could also have negative psychologically effect on the labour force. This point is especially important for economies where industries that are in decline employs a significant proportion of the labour force and these workers might be occupationally immobile. Under such circumstances, temporary protectionism such as import controls may help to slow down the rate of these industries shutting down and allow more time for affected workers to go for skill training.
- Protect strategic industries [e.g. energy and water, cars in Japan, agricultural for food security]
 - A key industry is one that is deemed important or vital to a country's political and economic interests or security and therefore requires protection by the government. Common examples of key industries include water, electricity, food source and defence. Being dependent on other countries could be threatening for a country's survival as other countries could use these goods as a threat or bargain.
 - Singapore's dependency on water from Malaysia can be an example of that situation where disputes between both countries could escalate to Malaysia threatening to 'cut off' water supply to Singapore. To avoid being in this position, Singapore has devoted huge amount of resources to increase water production domestically.
 - Another key industry is military or defence weaponry production. Most countries would have their own defence industry and Singapore Technologies, a local company produces some of Singapore's military hardware such as SAR21, Bionix and submarines.

Conclusion

- The above are some reasons why countries adopt protectionism. Essentially it is to protect the national interests.

Knowledge, Understanding, Application and Analysis	
L3 (8-10)	Clear explanation of why countries practise protectionist policies with at least 3 arguments for protectionism with clear link to macro goals. Good use of examples.
L2 (5-7)	Basic explanation of why countries practice protectionism with some link to macro goals.
L1 (1-4)	Incorrect or poor explanation of reasons for protectionism.

(b) Discuss whether the Singapore government's approach towards international trade should be adjusted in view of rising worldwide protectionism. [15]

Introduction

- Singapore economy is characterised as *small and open with limited resources*
- Singapore government's general approach towards international trade is one that *embraces free trade, focuses on exporting goods and services where she possesses comparative advantage (e.g. pharmaceuticals, medical devices, refined oil, etc) and very proactive in seeking for opportunities to sign FTAs with trade partners* → this is particularly important since domestic market is small
- Singapore adopts an appreciating exchange rate policy. This is to keep cost of imported raw material low. Being a resource scarce nation, we depend on imported raw material for production of exportable goods/services and for domestic consumption.
- *With rising worldwide protectionism, Singapore will face challenges such as increased input costs or fall in demand for Sg exports.*

Body

Thesis: Singapore government's approach towards international trade should be adjusted in view of rising worldwide protectionism because of the negative implications on Sg economy.

Potential disadvantages:

- With rising protectionism worldwide, Singapore may face a rise in raw material costs. Being an economy lack of natural resource, Singapore is dependant on import of raw materials or semi-finished products for survival and growth. Hence Singapore firms that rely on imported factors of production may face a rise in cost of production → COP → SRAS → **cost-push inflation**; negative economic growth; employment

- Also, given Singapore's small and open nature, rising worldwide protection may negatively affect our balance of payments current account position. With rising worldwide protectionism, trade partners (countries such as China and Indonesia which Singapore exports our goods and services to) may raise trade barriers, → SG exports lose price competitiveness → □P of SG exports in foreign currency → □ Qd for SG exports → assuming PEDx>1, export revenue for SG □ → **current account worsens**. Furthermore, capital inflow to Singapore may fall as countries make it more difficult to invest in Singapore in order to retain investments in their own domestic economy. Fall in FDIs to Singapore → **capital account worsens**.
- In addition, a fall in FDIs due to rising worldwide protectionism will cause domestic firms to reduce investments due to poor business expectations → I□ → AD falls → slowdown in growth or negative growth; furthermore, I□□ might **cause productive capacity to be negatively affected**
- Rising protectionism might cause domestic firms to have lesser access to global markets → firms are unable to enjoy EOS → COP increases → firms may not achieve **productive efficiency**. Also, increase in COP may mean firms are unable to enjoy large profits like before → reduces firms' ability to engage in R&D → **dynamic efficiency** negatively affected.
- Singapore is not able to control events world-wide and stop the West from engaging in protectionism. Hence, these negative consequences are inevitable if Singapore chooses to remain an open economy. This may provide a case for adjusting our view and approach towards international trade.
- Instead of largely relying on international trade as a source of growth, Singapore must also strengthen our domestic economy so that we could grow domestically. One area is for Singapore to focus on improving the provision of high-tech, value added services. The Industry Transformation Map (ITM) seeks to achieve this purpose. The ITM will aim to create 3,000 jobs in the financial services sector such as in banks and fund management companies in the next three years. An additional 1,000 jobs in the financial technology (FinTech) sector will be created each year up to 2020. This helps to enhance local connectivity and collaborate with local banks to create common utilities such as electronic payments and digital ID, while sustaining economic growth.

Anti-thesis: Singapore government's approach towards international trade need not be adjusted because of the strong foundations laid out by the government, which should be able to withstand the threats from rising protectionism

- Singapore follows a three-pronged approach towards international trade
 - Focus on exporting goods in which she possesses comparative advantage in
 - With continued focus on goods that Sg has comparative advantage in, Sg firms are able to gain competitiveness in terms of price and quality of our exports such as pharmaceuticals, medical devices, etc. Since Sg is a small economy, it is important for firms to have access

- to international markets. With greater access to global market, firms are able to enjoy significant EOS since scale of production can be large (lower AC as scale of production increases). Furthermore, firms are able to engage in R&D to constantly improve product quality (reduces substitutability, countries are less likely to switch to competitors selling similar products such as South Korea and Thailand for pharmaceuticals) to ensure that demand for Sg produced exports remains price inelastic. [PEDx<1]
- Modest and gradual appreciation of SGD; with flexibility of adopting zero appreciation during worldwide recession (e.g. in 2009 global financial crisis)
 - Singapore's long term stance on her monetary policy centred on exchange rate is to promote a modest and gradual appreciation of SGD. This ensures price stability as Singapore is heavily reliant on imported raw materials (e.g. crude oil and food) for survival, and for export competitiveness. With a stronger SGD, imported raw materials are cheaper when measured in SGD, and this reduces the risk of price fluctuations in domestic markets. This also ensures SG's exports remain price competitive in the global market. Hence this reduces the risk of SG's exports becoming too expensive which may cause export revenue to fall (assuming PED>1 in the SR; and import is constant) → dampens AD → negative or slow growth; also, BOP current account worsens.
 - A flexible exchange rate policy is also important for Singapore in times of global economic fluctuations. During global economic crisis, demand for Sg exports may fall. Continuing to appreciate SGD might have negative implications on Sg economy since export revenue might fall. Hence, Sg govt may choose to maintain a zero appreciation approach during this period to ensure exports is less likely lose export competitiveness.
 - Hence, SG's monetary policy centred on exchange rate should continue to remain flexible and adjust accordingly to global changes.
 - Embraces free trade → actively signs FTAs with new countries, particularly the Asian countries
 - The Singapore government is proactive in seeking opportunities to secure FTAs with major trade partners. With an extensive network of 22 bilateral and regional FTAs signed since 1992, Sg is building her resilience against global economic fluctuations. The more notable ones include China-Singapore FTA, US-Singapore FTA, EU-Singapore FTA, ASEAN FTA, etc, and these are the largest economies in the world. This ensures sufficient demand for Sg exports and also affordable imports of FOPs with the elimination of trade barriers between these countries.
 - → less fluctuations to AD caused by X and M changes
 - → less fluctuations in GPL caused by imported inflation
 - FTAs are also vital in ensuring healthy capital inflow and outflow. Being an economy very open to capital flows, stability of investment

- flows is important to ensure sustainable growth (healthy and steady increase in I → AD increase; LRAS increase)
- Unlikely to be a target of/hurt by protectionist measures by other nations
 - Have secured FTAs with major trade partners such as US, China, EU.

Conclusion

Despite rising worldwide protectionism, Singapore should push for freer international trade by seeking closer partnership with other countries, particularly the Asian countries. This is especially so given our small and resource scarce economy. Therefore, it is imperative that Singapore continues seek new areas of comparative advantage, in order to withstand against the volatile changes in the increasingly globalised world, and avoid direct competition with our trading partners. Though the existing approaches have been working well, the government should continue to refine the approaches in view of global economic changes and advances. One example is the Sri Lanka-Singapore FTA signed in 2018, which allows Singapore to leverage on Sri Lanka's fast-growing economy to promote domestic growth. Given its geographical proximity, an FTA with Sri Lanka will definitely help Singapore mitigate disadvantages that she may face in view of growing worldwide protectionism.

Level	Knowledge, Understanding, Application and Analysis
L3 (8-10)	Good two-sided explanation with clear use of economic analysis on whether Sg government should adjust her current approaches. Sg's current approaches is well elaborated using economic analysis with at least 1 macro and 1 micro challenge that Sg faces with rising protectionism OR 1 internal and 1 external challenge that Sg faces with rising protectionism Good answers should have a good scope of both Macroeconomic (internal and external) and Microeconomic impact.
L2 (5-7)	Good two-sided explanation with clear use of economic analysis on whether Sg government should adjust her current approaches. Some analysis on Sg's current approaches with explanation on Sg faces with rising global protectionism. Some link to macro and/or micro challenges that Sg government faces
L1 (1-4)	One sided answers. Weak understanding of Sg current approaches.
E3 (4-5)	For an evaluation with justification using economic analysis base on the context of Singapore
E2 (2-3)	For an evaluation with basic justification
E1 (1)	For an unexplained evaluation



SERANGOON JUNIOR COLLEGE JC2 Preliminary Examination

ECONOMICS
Higher 2

9757/01

Paper 1

10 September 2018

2 hours 15 minutes

Additional Materials: Writing paper

READ THESE INSTRUCTIONS FIRST

Write down your name and civics group on all the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** questions.

Start your answers to each case study question on a new sheet of writing paper.

At the end of the examination, fasten your answers to questions 1 and 2 **separately**.

The number of marks is given in brackets [] at the end of each question or part question.

This document consists of **8** printed pages.

Answer **all** questions.

Question 1: The Automobile Industry

Extract 1: Scarce, expensive cobalt essential for electric cars

Cobalt prices more than doubled in 2017, and rose to a record high early this year, driven by a rising demand for electric cars. Cobalt has been used for thousands of years to add blue colour in ceramics, glass and pottery, but now its main demand is as a key ingredient used in lithium ion batteries that power everything from Apple products to Tesla electric cars.

The supply side of the price equation is also boosting cobalt's price. Cobalt is mostly retrieved as a by-product of the copper and nickel mining industry. The prices of copper and nickel have been persistently falling, making production at many locations uneconomic, forcing mines to close. So even though there is strong demand for cobalt, if the rest of the industry is suffering, cobalt production will too.

Source: www.theglobeandmail.com, 27 Feb 2018

Extract 2: It's time to end subsidies for green vehicles

Norway reached a remarkable milestone in 2017, when it became the first country where zero-emission and hybrid vehicles accounted for more than half of new car sales in a calendar year. At the same time, however, the government of Norway announced that it wants to cut back lavish subsidies that allow citizens to save thousands of dollars on the price of a Tesla and other models, while sticking to its plan to make every new car sold a zero-emissions vehicle by 2025.

The Norwegian experience sums up the debate over how best to move away from fossil-fuel cars and onto the next generation of ground transportation – that is, whether or not subsidies for customers are worth it. But it also raises the question of whether that debate has become a moot point. The switch to electric vehicles appears to be speeding up globally, largely fuelled by innovation and government policy in major markets.

In China, the world's biggest car market, a company called Nio began mass-producing electric cars in 2017 with the help of heavy subsidies from a Chinese government that is eager to see the end of fossil-fuel cars in its polluted cities. More than 200 companies have also announced plans to manufacture electric cars to take advantage of the huge subsidies. However, some fear these subsidies may lead to overcapacity of electric vehicles, just like what happened to steel and solar panels. And questions also remain over how long it will take and how much will have to be spent before the industry is viable.

The push to increase sales of electric vehicles in the meantime is expensive, as Norway has learned. A recent study put out by the Montreal Economic Institute pegged the cost to taxpayers of lowering greenhouse-gas emissions in Ontario via vehicle subsidies at a whopping \$523 per tonne. It also said that, for Ontario to reach its goal of electric vehicles constituting five per cent of the new-car market, it will have to spend \$8.6-billion in subsidies over the next 13 years.

That is simply too much money for too little outcome. More critically, governments are subsidising a product that may not need the help. There is every indication that the world has reached a tipping point, and that natural competitive forces will soon start to bring down the cost of electric vehicles. Governments should therefore abandon their electric car subsidies.

Adapted from www.ft.com, 12 Oct 2017

Extract 3: China's automobile industrial policy

In terms of manufacturing scale, China has long established a position for itself as the world's largest automobile factory. On the level of individual manufacturers, however, Chinese manufacturers still lack international competitiveness. China exported less than 5 percent of locally produced automobiles and vehicle exports have been declining for the past two years, suggesting that China is failing to put its excess production capacity to practical use through exports. Chinese automobile manufacturers have also failed to make their presence in other major automobile markets. Chinese manufacturing sector is large but not yet strong. The government should be aware of the limitations of cultivating and supporting domestic enterprises under an automobile industrial policy that is weighted towards scale expansion.

Source: Yuichiro Koga, www.mizuhobank.com, 2 May 2017

Extract 4: Beijing lift restrictions on foreign investment in automobile industry

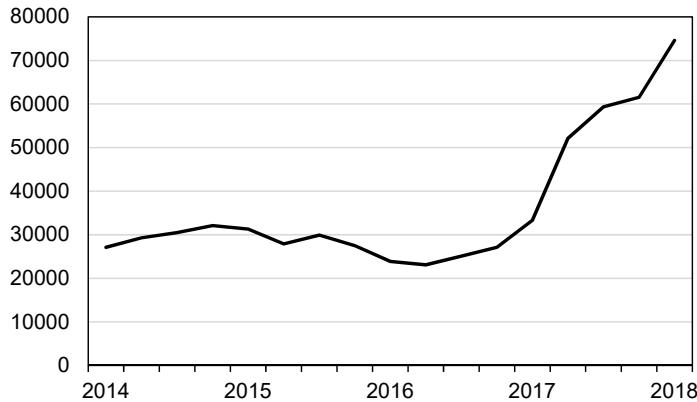
Since 1984, foreign carmakers have been allowed to produce cars in China — but only in joint venture with a local partner holding at least 50 per cent of the venture. In practice, the local partner is almost always one of six state companies.

The results of the three-decade-old policy have been mixed. Rather than transforming Chinese car companies into technology giants, the joint venture companies have arguably made Chinese carmakers complacent, according to Chinese policymakers. Foreign brands still account for a majority of sales in Chinese passenger cars — and the country's carmakers have failed to export more than a handful of passenger cars under their own brands.

Recently, the Chinese government announced it would scrap the 50 per cent foreign investment cap on automobile joint ventures by 2022. This is expected to encourage global electric vehicle makers to set up wholly owned plants in China. Tesla has unveiled a plan to set up a manufacturing plant in Shanghai.

Mr Jochem Heizmann, head of Volkswagen's China operations, said that the liberalisation sent an "important" signal that other industrial policies that limit competition and innovation might be relaxed. Most US business lobbies however, have dismissed a series of recent market liberalisation measures in the auto and financial sectors — touted by China's president Xi Jinping in a speech on April 11 — as being "too little, too late".

Source: www.ft.com, 1 Sep 2017

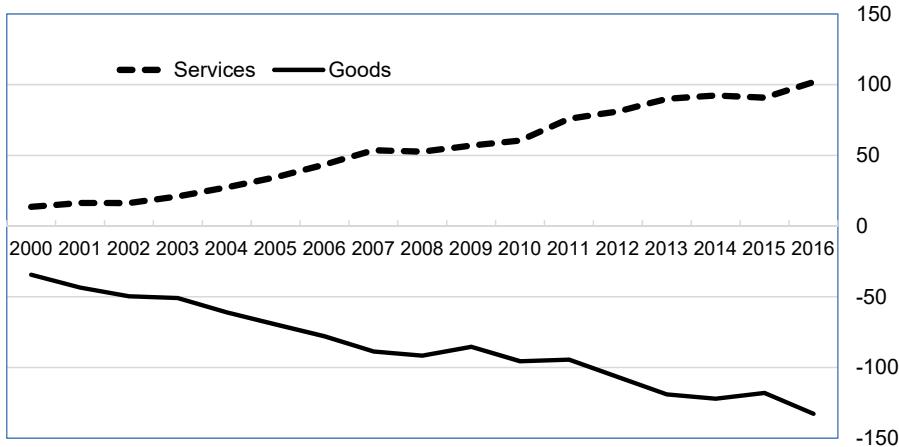
Figure 1: Cobalt prices (US\$ per tonne)Source: *tradingeconomics.com***Questions**

- (a) (i) Using Figure 1, describe the trend in price of cobalt over the period shown. [1]
- (ii) With reference to Extract 1, using supply and demand analysis, explain how falling prices of copper and nickel have contributed to the change in the price of cobalt observed in (a)(i). [3]
- (iii) Explain with the aid of a relevant diagram, how the level of profit of a producer of electric cars is likely to be affected by the change in price of cobalt. [3]
- (b) Discuss whether government subsidies for electric cars would help or hinder the attainment of economic efficiency in resource allocation. [8]
- (c) With reference to Extract 3, explain the reasoning that underlie the Chinese government's automobile industrial policy that is focused on 'scale expansion' and comment on the extent to which this policy has helped to improve the international competitiveness of the industry. [5]
- (d) With reference to the case material provided and your own knowledge, discuss whether on balance, the Chinese government's decision to open up the domestic market for cars to foreign investments will be beneficial for consumers, producers and the government. [10]

[Total: 30]

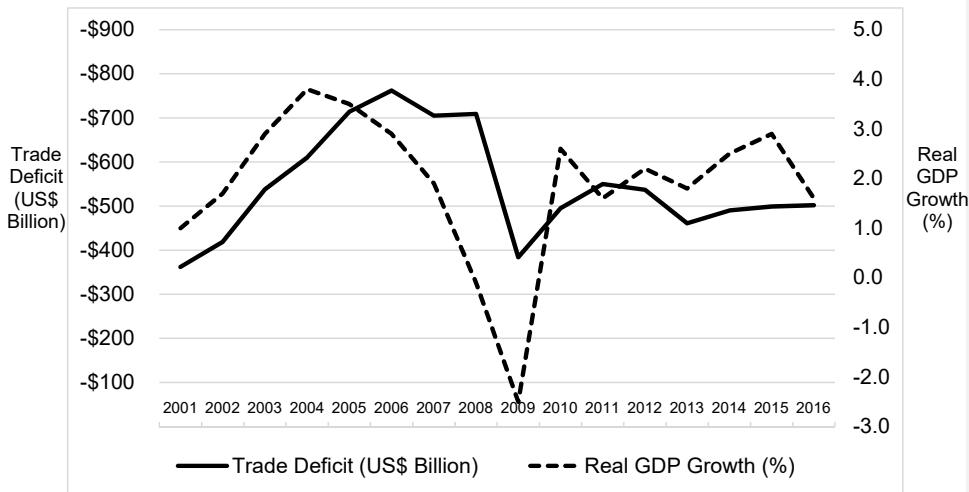
Question 2: Impact of Free Trade and Innovation on an Economy

Figure 2: UK's trade balances (£ billions)



Source: *Financial Times*, 18 December 2017

Figure 3: US's economic growth and trade deficit



Source: *Menzie D. Chinn and Michael W. Klein*, 20 January 2017

Extract 5: UK-EU¹ economic relations

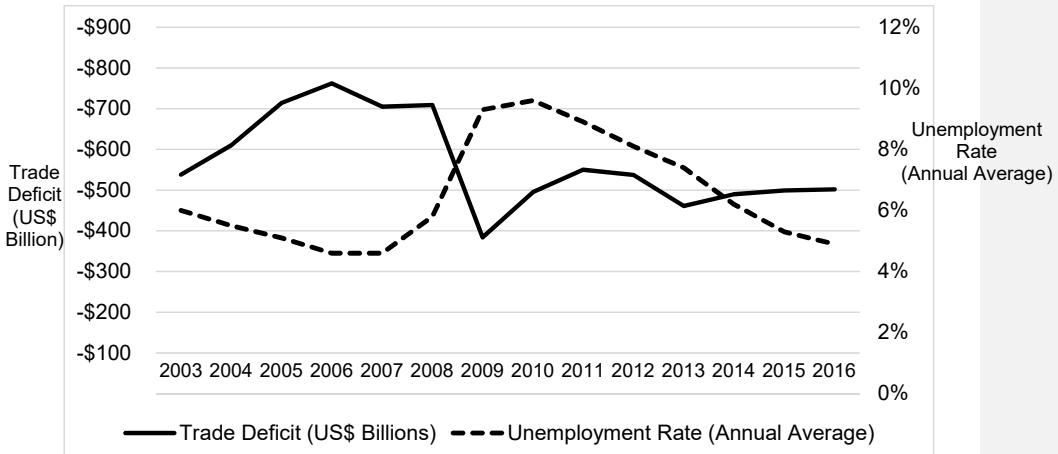
The European Union (EU), taken as a whole, is the UK's major trading partner, accounting for 44% of exports and 53% of imports of goods and services in 2015.¹ However, the share of UK trade accounted for by the EU is lower than a decade ago. Both the current and previous governments have stated that over three million jobs are linked to exports from the EU. The EU is a major source of inward investment into the UK. In 2014, EU countries accounted for £496 billion of the stock of inward foreign direct investment, 48% of the total. The UK's net contribution to the EU Budget in 2015 is estimated at £8.5 billion. It is forecast to fluctuate between £11.2 billion and £7.3 billion a year between 2016 and 2020.

Various studies have attempted to quantify the economic benefit or cost to the UK of its membership of the EU. This is a very difficult exercise and depends on a wide range of assumptions. The Institute for Fiscal Studies (IFS) has commented that "there is an overwhelming consensus among those who have made estimates of the consequences of Brexit that it would reduce national income in both the short and long runs." Supporters of Brexit argue that the economic consensus has often been wrong in the past.

Outside of the customs union, trade with the EU won't be quite as "free" for the UK as before it exited the EU. Unless UK is inside the customs union, goods imported into the EU will need to provide proof of where and how they were made. Leaving the customs union would allow UK to sign free trade deals with other countries (It cannot do this as a customs union member). By leaving, UK would no longer be a part of existing EU trade deals with other countries, and would face tariffs on trade with other countries until free trade agreements were made.

Source: *Research briefings, Parliament UK and fullfact.org*

Figure 4: US's trade deficit and the unemployment rate



Source: *U.S. Commerce Department and Bureau of Labor Statistics*

¹ There is free movement of goods and services, capital and labour among the 28 member countries of the EU but members must abide by common rules and regulations such as rules on environment standards and competition.

Commented [J1]: Suggest to change to European Union (EU)

Commented [J2]: Disjoint here to me, why major trading partner then share of UK trade lower. So added the word however

Extract 6: Trump hates the trade deficit. Most economists don't.

For decades there has been a consensus that globalisation brought more jobs, higher wages and lower prices – not just for richer countries but also for developing and poorer nations. But there is now a growing movement of anger as people see jobs being taken by machines, old industries disappearing and waves of migration disturbing the established order.

Global trade flows are falling and trade deals are being ripped up. President Trump's fixation with America's widening trade deficit is fuelling his decision to impose stiff tariffs on steel and aluminium imports. Mr. Trump complains about the metric frequently, saying the trade imbalance is a measure of America's weakness on trade policy. "We lost, over the last number of years, \$800 billion a year," he said in the White House on Monday, while defending his tariffs against criticism from Republican leaders in Congress.

Mr. Trump has long argued that the trade deficit hinders economic growth, and that reducing it will accelerate American job creation. The sense of grievance in the US is clear: the manufacturing sector in the country has seen six million jobs disappear between 1999 and 2011, according to the Bureau of Labour Statistics.

Source: *New York Times*, 5 March 2018

Extract 7: Technology and the innovation economy

Innovation and entrepreneurship are crucial for long-term economic development. Over the years, America's well-being has been furthered by science and technology. Both public and private sector investment created jobs, built industries, fuelled innovation, and propelled the US to leadership in a number of different fields.

By adopting policies such as a permanent research and development tax credit, more effective university knowledge commercialisation, improving worker training, America can build an innovation economy and sustain its long-term prosperity.

Statistics shows that innovation remains a factor in the so-called Third Industrial Revolution, which began in the nineteen seventies and continues today. The development of electronics, robotics, biotechnology and especially the globalisation of the internet have all contributed to ongoing productivity growth. North American industrial productivity grew at an annual rate 4.1% between 1990 and 2000, a period of only ten years. Moreover, this productivity growth continued up until 2007 at a rate of 3.9%.

Scientific research has continued, and now there are new advances in transportation, with unmanned flights; in medicine, with progress in genetics; in 3D printing; and in the comprehensive integration of the internet in daily life, with "the internet of things". The positive effects on the economy from these innovations will be seen when they are applied and extended throughout society. However, this transformation is not immediate. The life cycle of a technology requires a passage of time between the scientific discovery, the creation of the innovation and the spreading of the technology.

Source: *Economy Weblog*, 2 October 2014

Extract 8: Technological advancement and long-term economic growth in Asia

Innovation depends on market-based incentives, and most importantly on the scope of the market itself. Developing a new idea requires a significant onetime investment of research and development (R&D), and this "fixed cost" of innovation must be recouped through subsequent sales. If the potential market for the innovation is large, it is obviously easier to recoup the one-time R&D expenses. A small market, on the other hand, will not justify the high onetime costs of R&D.

Source: *Jeffrey D. Sachs and John W. McArthur, ACM, Digital Library, 2002*

Questions

- (a) With reference to Figure 2, compare the UK's trade in goods with trade in services over the period. [2]
- (b) Explain one possible cost and benefit to the UK economy of its exit from the EU. Assess whether they are likely to occur. [8]
- (c) With reference to Figure 3, state and account for the relationship between US economic growth and trade deficit. [3]
- (d) Extract 6 mentions that 'Mr Trump has long argued that the trade deficit hinders economic growth, and that reducing it will accelerate American job creation.'

How does Figure 4 show that President Trump's concern about the US trade deficit and unemployment is unfounded? Explain why this is so. [4]

- (e) With the aid of a diagram, explain how a tariff on steel imports will reduce the comparative advantage that a steel exporting country has over the domestic country. [3]
- (f) Given that 'Over the years, America's well-being has been furthered by science and technology', discuss whether an improvement in technology or free trade is the key to achieve a higher level of economic well-being for any country. [10]

[Total: 30]

Commented [J4]: I find this phrase confusing actually... Can I suggest adding the word "imports" after domestic... So it should read:
a steel exporting country has over the domestic importing country

End of Paper



SERANGOON JUNIOR COLLEGE JC2 Preliminary Examination

ECONOMICS
Higher 2

9757/02

Paper 2

18 September 2018

2 hours 15 minutes

Additional Materials: Writing paper

READ THESE INSTRUCTIONS FIRST

Write down your name and civics group on all the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **three** questions in total, of which **one** must be from Section A, **one** from Section B and **one** from **either** Section A or Section B.

Start your answers to each essay question on a new sheet of writing paper.

At the end of the examination, fasten your answers to **each** question **separately**.

The number of marks is given in brackets [] at the end of each question or part question.

This document consists of **3** printed pages and **1** blank page.

Answer **three** questions in total.

Section A

One or two of the three chosen questions must be from this section.

- 1 The rising price of healthcare is coming under closer scrutiny as medical inflation rate climbed up to 15% in 2015.
 - (a) Explain the role of prices in addressing the fundamental problem of economics. [10]
 - (b) Discuss the relative importance of demand and supply factors in influencing Singapore's medical inflation rate. [15]

- 2 Falling labour productivity squeezes the profits of firms as their earnings fail to keep pace with rising labour costs. Fourth-quarter profits ~~for~~of US's top 500 companies have fallen to the lowest in two years.
Source: adapted from cnbc.com, 17 February 2015

- 3 (a) Assess the extent to which the type of market structure ~~can influence the sustainability~~determines the survival of a firm given a fall in labour productivity. [25]

 _____ [25]

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Section B

One or two of the three chosen questions must be from this section

- 4 In the past decade, we have seen an explosion of technological advances in the way we work, live and play. Whilst this has impacted economic growth, some gains from technology do not always show up in the growth numbers.
- (a) Explain the factors that can affect sustainable economic growth of a country. [10]
- (b) Discuss the problems associated with using gross domestic product (GDP) as a measure of the standard of living of a country and why it might be increasingly challenging to rely on GDP for this purpose. _____ [15]
- 5 Explain why a government should be concerned with deflation and assess the relative effectiveness of alternative demand-side policies that a country could adopt to tackle this problem. [25]
- 6 In recent years, the globalisation trend witnessed both threatening protectionist moves and increasing attempts at free trade agreements and economic cooperation. In Singapore, additional challenges are posed to its fundamental shift to become a mature economy with a high rate of local innovation.
- (a) Explain why in some cases protectionism may be justified. [10]
- (b) Discuss how a country like Singapore should increase its competitiveness in a globalised world which might become increasingly protectionist. [15]

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SRJC H2 CSQ 1 Suggested Answers

(a) (i) Using Figure 1, describe the trend in price of cobalt from 2013 to 2017. [1]

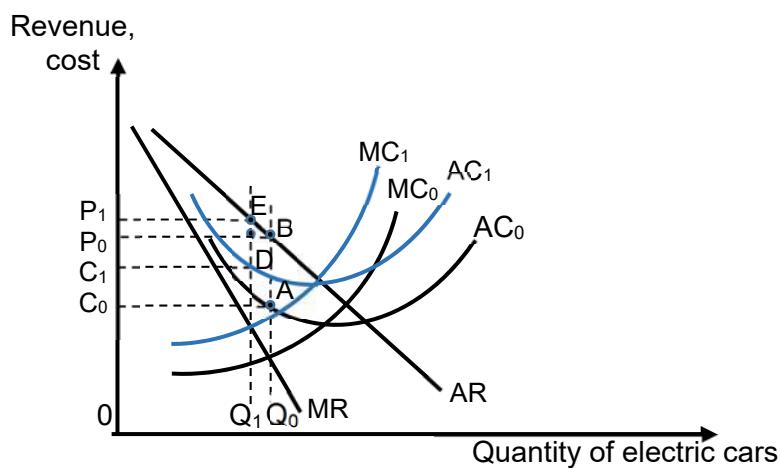
The price has generally **increased** over the period.

(ii) With reference to Extract 1, using a supply and demand analysis, explain how falling prices of copper and nickel have contributed to the change in price of cobalt observed in (a) (i). [3]

Cobalt is produced as a “**by-product**” from nickel meaning it is produced in **joint supply** with nickel and copper. This means when there is an increase in copper and nickel production, there will be a simultaneous increase in supply of cobalt. When prices of nickel and copper fall, there is a fall in quantity supplied of these metals as profits fall. Hence, mines shut down. This leads to a fall in supply of cobalt, causing a shortage that leads to an increase in cobalt prices as observed in a(i).

(iii) Explain with the aid of a relevant diagram, how the level of profit of a producer of electric cars is likely to be affected by the change in price of cobalt. [3]

Cobalt is a raw material used in producing rechargeable batteries which are used in electric cars (extract 1). As such, when cobalt price increases, the price of the batteries increases which in turn increases the cost of electric cars. This cost is a variable cost since the number of batteries and thus cobalt needed varies with the number of electric cars produced. This means both the marginal cost (MC) and average cost (AC) increase. MC and AC curves will shift from MC_0 to MC_1 and AC_0 to AC_1 respectively. Assuming the electric car firm is a profit-maximising firm, its output level falls from Q_0 to Q_1 and price increases from P_0 to P_1 . As demand is price elastic, the rise in price leads to a more than proportionate fall in quantity demanded. Hence the firm’s total revenue falls. As profit is the difference between total revenue and total costs, the rise in cobalt prices will result in a fall in total profit of the car firm from area P_0C_0AB to area P_1C_1DE .



(b) Discuss whether government subsidies in the market for electric cars would help or hinder the attainment of economic efficiency in resource allocation. [8]

Answer

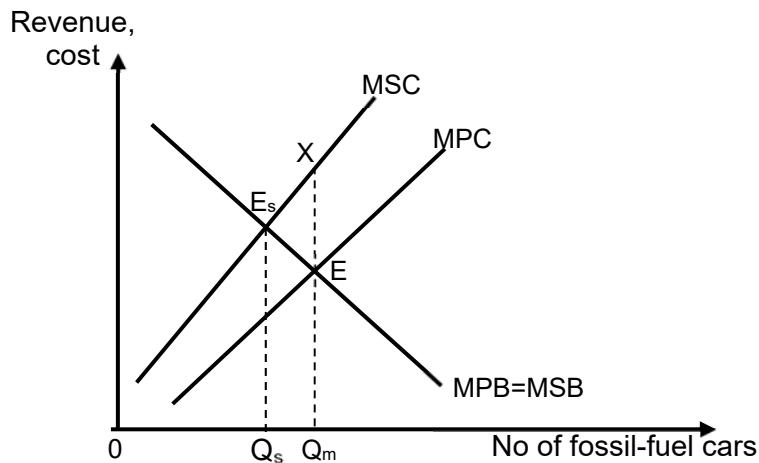
Introduction

Efficiency in resource allocation refers to a situation in which it is impossible to make someone better off without making someone else worse off. In the market, economic efficiency is attained when marginal social benefit (MSB) equals to its marginal social cost (MSC).

Body

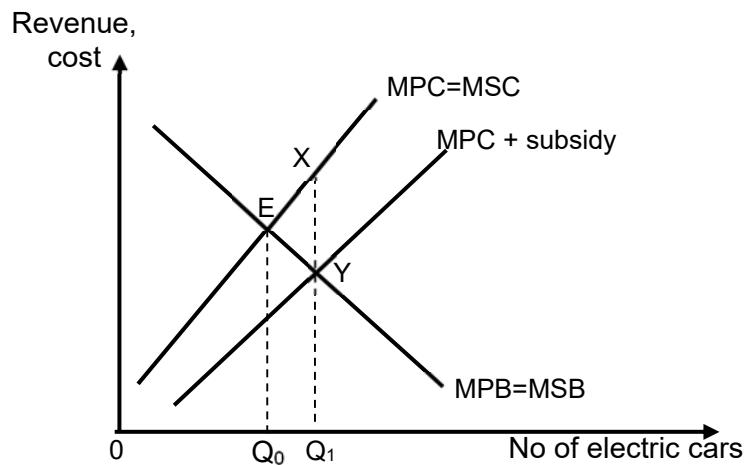
Some governments like in Norway and China subsidises electric cars in order to encourage its consumption through lowering price. This is aimed at reducing the level of pollution in the country and hence achieving a more efficient allocation of resources in the market for fossil fuel cars.

In the market for fossil-fuel cars, there is negative externality which refers to the costs to the third party who are not directly involved in the production and consumption of the good and they are not compensated for the costs they incur. This negative externality causes a divergence between the marginal social cost (MSC) and the marginal private cost (MPC) of car usage. The marginal private benefit (MPB) to the car users include value of time saved and comfort of travel by car. The market equilibrium level of consumption is Q_m where car users consider only the private benefits and costs. However, the social optimal level of consumption is Q_s where all costs, including external costs as well as external benefits are taken into account. There is thus overconsumption of $Q_m - Q_s$ of cars and this results in a deadweight loss to the society – area E_sEX . This deadweight loss is a result of the excess of MSC over MSB for each additional unit of the good consumed between Q_m and Q_s .



When the government gives a subsidy to electric cars, it will lower the price of electric cars. Consumers will switch from fossil-fuel cars to electric cars as electric cars are relatively cheaper now. Hence, there will be a fall in the consumption of fossil-fuel cars which will also reduce/remove the deadweight loss as a result of over-consumption of such cars. So a subsidy for electric cars help to attain efficiency in resource allocation such as the right amount and type of cars are consumed.

This same subsidy however, can also hinder efficiency in the market for electric cars itself.



Assuming there is perfect information and no externality in the electric car market, the market equilibrium output and price as determined by $MPB=MPC$ will be socially optimal level since $MPB=MSB$ and $MPC=MSC$. This occurs at output OQ_0 . However, with the government subsidy that lowers the cost to the producers, the new equilibrium output is OQ_1 . This output level is now greater than OQ_0 . With this intervention, the output of electric cars now will be more than social optimal. Hence, there is a welfare loss of area EXY as the $MPC>MPB$ (or $MSC>MSB$) for each additional output that exceeds OQ_0 . Worse, these firms do not really need help or support by the government as they are profitable in themselves as mentioned in the extract.

Conclusion

The subsidy for electric cars may be needed to reduce the problem of over-consumption in the fossil-fuel car market i.e. subsidy helps to attain efficiency, especially in the short-run. However, in doing so, the government is distorting the electric car market as the subsidy encourages over-production and hence welfare loss. In view of this, the government needs to think about the right level of subsidy.

- (c) With reference to Extract 3, explain the reasoning that underlie the Chinese government's automobile industrial policy that is "weighted towards scale expansion" and comment on the extent to which this policy has helped to improve the international competitiveness of China's car industry. [5]**

Chinese government is trying to enable its infant car industry to grow when it is "cultivating domestic enterprises". It is likely that this policy helps firms to produce at a greater output level so that they may enjoy economies of scale. This lowers its long run average cost of production as more cars are produced. The firm can then lower its price to increase the quantity demanded for Chinese cars assuming that demand for China's car exports is price elastic, which is likely to be the case because of the many available substitutes for Chinese cars. Hence scale expansion increases the competitiveness of China's car industry.

This policy is likely to have succeeded to a limited extent in improving the competitiveness of China's car industry as Extract 3 mentions that China exported less than 5% of locally produced automobiles and this is further declining.

A likely reason for this is that Chinese cars are unable to compete based on quality and it is difficult for them to break into a market that may have strong brand loyalty. Consumers of cars may already have formed a brand loyalty to either German or Japanese cars because of the qualities that they possess. This perceived quality of such cars makes it difficult for Chinese cars to gain a larger market share because they are seen as inferior in quality to the more established car brands.

(d) With reference to the case material provided and your own knowledge, discuss whether on balance, the Chinese government's decision to open up the market for cars in the country to foreign investments will be beneficial to consumers, producers and the government. [10]

The Chinese government announced the scrap of the 50% foreign investment cap on joint ventures by 2022. This lowering of barriers to entry by foreign firms into the Chinese car market will be beneficial to consumers, the government and foreign producers. However, local producers are likely to be negatively impacted. Whether the policy is beneficial overall depends on how wide the impact is on the different economic agents and whether there are possible measures to mitigate the negative effects of the policy.

Chinese consumers are likely to benefit from this policy in terms of lower prices and greater variety. A local producer faces the cost and revenue conditions shown in the Figure 1 below.

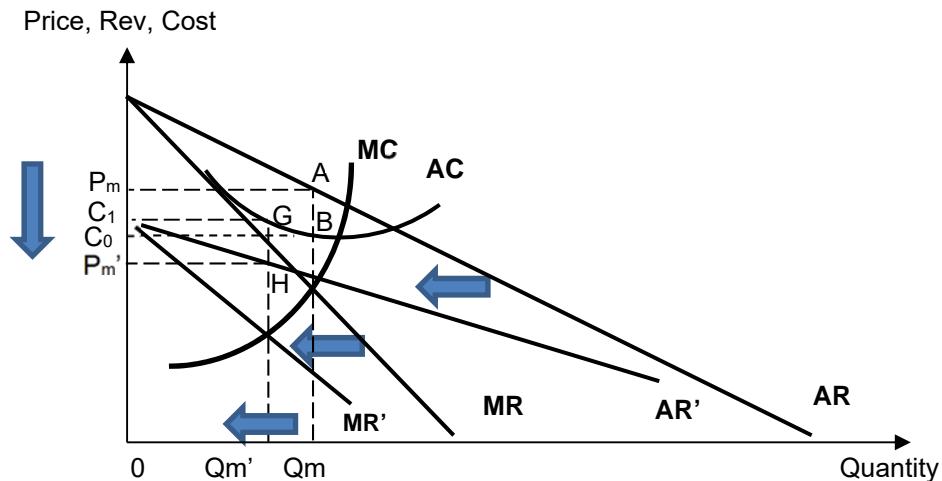


Figure 1: A Chinese car manufacturer's cost and revenue conditions

Consumers now have more options of car brands to choose from and so will reduce their demand for a given local manufacturer's cars. This is seen in the leftward shift of the Average Revenue (AR) curve along with its Marginal Revenue (MR) curve. The reduced demand will lead to a fall in prices for the firm's cars (from P_m to $P_{m'}$) that consumers get to enjoy.

Furthermore, with the entry of new firms into the market, consumers are able to enjoy a greater variety and quality..

The government, representing society, also benefits from the liberalisation of the Chinese car market in terms of economic growth due to an increase in foreign direct investment. This leads to an increase in aggregate demand which in turn leads to a multiple increase in national income through the multiplier process.

However, local producers are likely to suffer a loss in profits. The initial supernormal profits of these firms, as seen in figure 1, is the area P_mABC_0 . However, as mentioned, their demand falls and these leads to a fall in the price and quantity of cars sold. This leads to a fall in profits and it can even become subnormal profits of area $C_1GHP_{m'}$. Furthermore, Extract 4 mentioned how these local firms are likely to be complacent because of the joint venture policy. Thus,

they are unlikely to be productively efficient and their higher costs will further worsen their profits.

On balance, it seems that it is more beneficial than not to implement the liberalisation policy since it benefits consumers and the government in terms of reaching its goals. However, this is also dependent on the impact on the local producers who lose profits. A substantial fall in profits for the Chinese firms could lead to an eventual shut down of the firms and would result in a fall in derived demand for the labour, leading to higher levels of unemployment in the country.

Suggested Mark Scheme:

Levels	Descriptors
L2	<ul style="list-style-type: none"> Excellent explanation with good economic detail of both the positive and negative impacts of liberalisation on the different agents. Answer is well applied to the Chinese context. Logical, coherent arguments made and points are well organised.
L1	<ul style="list-style-type: none"> Smattering of ideas Answer is disorganised and lacking in clarity Only 1 agent is addressed. 1-sided argument.

Evaluation	Descriptors
E2 (2-3)	<ul style="list-style-type: none"> Provides a reasoned conclusion as to why on balance, the policy is beneficial based on the impact of the costs and benefits.
E1	<ul style="list-style-type: none"> States overall stand of whether on balance, the policy is beneficial or not. Unjustified conclusion.

SRJC H2 CSQ 2 Suggested Answers

(a) With reference to Figure 2, compare the UK's trade in goods with trade in services over the period. [2]

- trade in goods is in deficit whereas trade in services is in surplus
- both shows an increasing trend i.e., deficit is getting bigger whereas the surplus for trade in services is getting larger

(b) Explain one possible cost and benefit to the UK economy of its exit from the EU. Assess whether they are likely to occur. [8]

Possible cost: 1) Fall in economic growth due to fall in AD

- As a member of a custom union, UK exports to the EU are not subjected to tariffs
- But now that it exited the custom union, this privilege is withdrawn. UK goods are taxed or subjected to other protectionist measures when sold in the EU as well as in other countries that EU has signed FTAs.

Analysis

- A tariff increases the price of UK exports to the EU and other non-EU countries → reduces UK export competitiveness → demand for UK goods likely to be price elastic as there are many substitutes in the EU market → qty demanded falls by more than proportionately → export revenue falls
- UK will be a less attractive destination for inflow of FDI. Many foreign firms locate production in UK to take advantage of the large EU market but now their exports will be affected by tariffs making their investments less profitable. In addition, cost of production would increase as UK too will impose tariffs on imports raw materials from the EU. This further makes UK exports less competitive.
- Due to the uncertainties with regard to the profitability of firms and the ability to continue to work in the EU, households may cut back on consumption as there is fear of loss of jobs.
- So with fall in C, I and X, AD falls and this will cause economic growth to fall.

Other costs

2) Higher unemployment

- There could possibly be a rise in demand-deficient unemployment. So when AD falls, firms will retrench workers to cut costs since firms are faced with increase unsold stocks. There is no need to hire additional workers since the demand for workers is a derived demand and the demand for goods has fallen. Over 3 million jobs are linked to exports to the EU and some of these workers will be unemployed.
- In addition, there may be increase in capital outflow due to the uncertainties linked to Brexit. As firms relocate to other countries, more workers will be unemployed.

OR 3) higher inflation rates

Possible Benefits

- 1) **Higher economic growth** due to increase in exports and increase in Govt spending
 - After exiting the EU, UK need not contribute to the EU → money saved can be used for domestic spending → increase in G → increase AD

- Being in the EU, UK cannot sign FTA with other non-EU member countries on its own which restricts her ability to increase trade **further**
- But after Brexit, UK can choose to sign FTA with those economies which are of benefit to her such as emerging economies like BRICS. China, for eg, is growing more strongly than the EU. Due to the rising middle income class, their ability to spend may be greater than the EU which has been suffering from slow economic growth. UK's trade with the EU has been declining anyway which shows that even though there is free trade, UK is not benefitting from it. Breaking out of EU in search for high growth economies to trade is more beneficial for its exports → increase in exports → increase in AD
- UK may not have benefitted from free trade with EU but may benefit more from free trade with non-EU members. A possible reason could be that the opportunity cost difference for the goods traded between EU and UK may not be that big since they may have similar factor endowments or that UK may be losing comparative advantage in manufactured goods to countries like Germany. But this may not be the case between UK and other countries where the difference in factor endowments may be greater and therefore having FTA with them will give UK exports an edge.
- Overall, with exports and government spending increase, AD increases → higher economic growth

Other benefits

2) There may be increased economic efficiency as UK may not need to abide by rules and regulations imposed by the EU.

Stringent environment standards such as high tax rates set by the EU may increase UK cost of production making her goods uncompetitive in the world market. But now after exiting EU, UK can set its own environmental standards which may be more in line with its own pollution standards and thereby benefitting domestic firms.

OR 3) Brexit will reduce trade diversion for UK.

How likely will the UK experience the above cost and benefit.

In the short run, Brexit is more likely to be negative for the UK economy.

- (i) Regardless, the EU is a huge market which is not easily replaced in the short run.
- (ii) (UK would have to negotiate FTA with the EU as well with other non-EU countries which may be a very long and complicated process. The uncertainties with regard to the ability of the UK in signing **favourable** free trade agreements and the extent EU will impose barriers on UK may weigh heavily against firms' decision to invest in the near future.

(c) With reference to Figure 3, state and account for the relationship between US economic growth and trade deficit. [3]

When growth rate is high, the trade deficit is large but when growth rate is low, trade deficit becomes smaller. (or increase in growth rate , increase in trade deficit and when growth rate falls, trade deficit falls)

- Trade deficit is where imports are greater than exports
- High ec growth → bigger trade deficit because rise in imports > rise in exports
High US econ growth rate → large increase in income → increase in purchasing power → YED > 1 (or high YED) or MPC is very high → increase demand for goods and services including imports → import expenditure increases

Export revenue did not increase by as much probably due to foreign YED not as high as US demand for goods or protectionist measures or slower economic growth

- (d) Extract 6 mentions that 'Mr Trump has long argued that the trade deficit hinders economic growth, and that reducing it will accelerate American job creation.'

How does Figure 4 show that President Trump's concern about the US trade deficit and unemployment is unfounded? Explain why this is so. [4]

President Trump thinks that the rising trade deficit will cause rising unemployment. As US increase its imports, domestic firms will not be able to compete and so domestic production falls causing the demand for labour to fall as it is a derived demand and firms need to cut costs when revenue falls.

However, Figure 4 shows that trade deficit increases, unemployment rate falls.

Possible reasons

- There may be a rise in unemployment in those industries that are producing goods that are close substitutes of imports but there may be rise in production of goods from other industries where cheap imports cannot compete with the US. For example, high tech goods as well as services.
- $(X-M)$ is just one component of AD. There could be rise in both domestic and foreign investments as well as government spending.
- There could be increased capital inflow from those countries that have a trade surplus with the US. If this is long term capital flow in the form of direct investments such as the setting up of plants and offices, more jobs could be created in the US

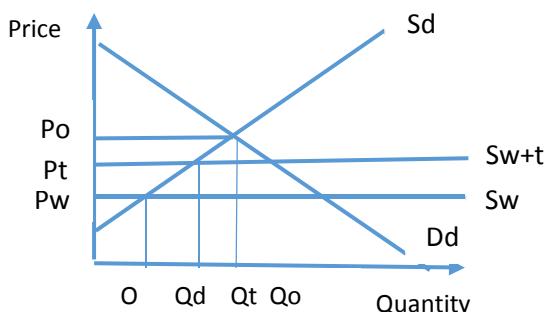
- (e) With the aid of a diagram, explain how a tariff on steel imports will reduce the comparative advantage that a steel exporting country has over the domestic country. [3]

Steel exporting country has a comparative advantage in producing steel means that its opportunity cost of producing steel is lower compared to the domestic country. As $P=MC$ and MC represents the opportunity cost of producing the good, the difference in opportunity cost is reflected by the different price charged for steel by the exporting and domestic country.

At Q_o , the opportunity cost of producing steel for the domestic country is P_o as seen from the S_d curve. However, for the exporting country, the MC is lower at P_w as seen from the S_w curve. The opportunity cost difference which is reflected as price difference is $P_o - P_w$.

This makes the domestic country's steel uncompetitive. Thus, it imposes a tariff which is a tax on imported steel to reduce this price difference. So when the tariff is imposed, the price of steel now increases to P_t . The foreign steel is now more expensive by $P_w - P_t$ making it less competitive.

Thus a tariff artificially reduces the comparative advantage the exporting country has over the domestic producers.



- (f) Given that 'Over the years, America's well-being has been furthered by science and technology', discuss whether an improvement in technology or free trade is the key to achieve a higher level of economic well-being for any country. [10]

Introduction

A country that has a higher level of economic wellbeing is one where its people have more goods and services to enjoy. This is usually reflected by the real per capita income. Wellbeing includes also the non-material aspects of life such as the quality of the environment and leisure. The production possibility curve can be used to represent wellbeing as it shows the various combinations of two goods that an economy can produce when all resources are fully and efficiently utilized with a given amount of resources and a certain level of technology.

P1: Trade based on CA will enable a country to consume beyond its PPC and therefore a higher level of economic wellbeing.

According to the theory of comparative advantage, even if a country has an absolute advantage in the production of all goods, as long as it is able to produce a good at a lower opportunity cost, specialisation and trade will be mutually beneficial to all countries.

Below shows the PPC of the USA and China. The USA can produce more of both cars and wheat but from the slope of the PPC which measures the opportunity cost of producing cars, its opportunity cost is lower than China (1 car to 1 wheat vs 1 car for 4 wheat) and for wheat production, China's opportunity cost is lower. US will then specialise and export cars and China wheat production. To trade, a mutually acceptable terms of trade must be established. This should lie between the two countries opportunity cost. For eg. 1 car = 2 wheat. So if US were to export all her 1000 cars, it will be able to import 2000 wheat, more than if she were to produce itself. Likewise for China. Figure 1 shows the consumption possibility curve above the PPC. This shows that after trade, both China and US are able to enjoy more of both cars and wheat which means a higher level of economic wellbeing.

Non-material wellbeing increases as well as a country can enjoy a greater variety of goods from imports that come from all over the world.

This is confirmed in Extract 2 which said that globalisation which includes free trade, brought more jobs, higher wages and lower prices - not just for richer countries but also for developing and poorer nations. This shows that specialisation and trade improves welfare.

P2: Improvement in technology will shift an economy's PPC outward, enabling the country to enjoy more goods and services and therefore a higher level of wellbeing.

However, improvement in technology could also give the same result. Technological improvements can increase the quantity and quality of resources and thereby increases a country's productive capacity, thereby shifting the production possibility curve outward. With technological advances, productivity can increase, more and better quality resources can be created and there can be new products invented as well. For example, the development of electronics, robotics, biotechnology and especially the globalisation of the internet have all contributed to ongoing productivity growth in the USA. Robots, for eg, are a new type of capital goods which replace human labour and are more efficient as they can be used continuously without having to take breaks. Advances in IT helps to increase efficiency and more goods can be produced in given time period. Advances in technology make it possible for the USA to discover shale oil. Societies today are able to enjoy better modes of transport such as cars, mass rapid transit, aeroplanes which reduce travelling time, more food due to GM food and Green Revolution, more houses built with less material, more land reclaimed for housing and for commercial purposes. All these are the

outcome of technological improvements which shifts the PPC outward allowing the society to enjoy a higher level of wellbeing.

Non-material wellbeing also increases as society has more time for leisure due to higher productivity and development in certain technology also reduces pollution. For eg, the use of solar and wind power replace highly polluting coal generated energy.

P3: Which is the key in determining welfare is dependent on several factors.

But between the two, which is the key to a higher level of wellbeing? As analysed above, both increases the wellbeing of a country. However, for some countries, they do not have the factor endowment to develop new technology. For example very poor countries have a high level of illiteracy and lacks a pool of scientists and researchers as well as the necessary infrastructure for research. It is difficult for them to have major new innovations. That is why most of the technological advances come from mainly developed countries like the USA, Japan and Germany as they have the necessary factor endowments. Due to these constraints, for developing countries, trade is the key to a higher level of wellbeing. For example, they can specialise in the production of food products or raw materials if they have in abundance and exchange that for manufactured goods and thereby allowing them to enjoy a higher standard of living.

However, in the long run, a country that has backward technology, through trade, will acquire new technology. Over time, they could adopt the technology of the exporting countries like the US and if they do so, their PPC will shift outwards. Japan for eg used to be very backward but over the years, it learned from the West and eventually it emerged as a country that too has advanced technology.

Secondly, trade is able to increase level of wellbeing in the short run but without technological improvements, well-being is not sustainable as growth itself will not be sustainable. Take the example of the progress Singapore made in terms of standard of living. By the 1980s, Singapore has reached full employment and if there are no technological improvements, with AD rising continuously, inflation will set in and this will cause growth to be unsustainable.

Conclusion

In conclusion, for countries that lack the ability to innovate, trade is the key to economic wellbeing in the short run but in the long run, technological advancements will also spread to them and so they too will benefit from it. For countries that have the factor endowments for technological advancements both trade and improvements in technology are both important in increasing welfare

**2018 JC2 Preliminary Examination
9757 H2 Economics Paper 2
Suggested Answers**

- 1 The rising price of healthcare is coming under closer scrutiny as medical inflation rate climbed up to 15% in 2015.

(a) Explain the role of prices in addressing the fundamental problem of economics. [10]

(b) Discuss the relative importance of demand and supply factors in influencing Singapore's medical inflation rate. [15]

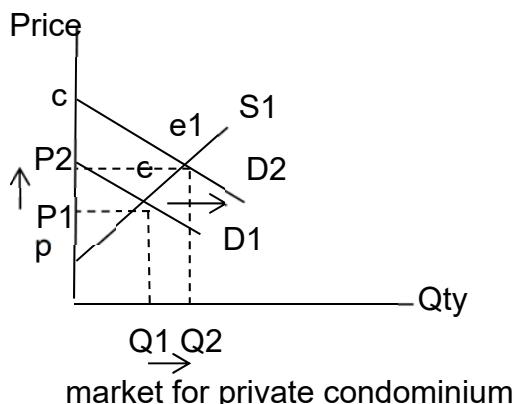
Introduction

The fundamental problem of economic is that of scarcity where there is limited resources to fulfil the unlimited wants. As a result that there is a need to make decision about resources allocation regarding what & how much to produce, how to produce and for whom to produce. This essay aims to explain how price mechanism will help address the above decisions such that resources will be allocated efficiently.

Body

P1: In a free market economy, prices help determine what and how much to produce

The free play of market forces of demand and supply determines price which then acts as a signal to firms to allocate scarce resources. The consumers signal their demand for the goods by offering a price that they are willing and able to pay for the good. The producers will then respond by producing the quantity of the goods that they are willing and able to produce for the price that is offered to them.



For example, in Figure 1, the initial equilibrium price is at P1 and the equilibrium quantity of private condominium exchanged between consumers and producers is Q1.

If demand for private condominium rises and supply remains unchanged, a shortage will occur as quantity demanded is greater than quantity supplied. As a result unsuccessful consumer will signal their willingness and ability to purchase the good by bidding up the prices. Producers will then respond to the price signal by increasing allocating more resources towards the production of it to increase the quantity supplied since it is now more profitable to do so. At the same time consumers who are unwilling to pay the higher price will reduce the quantity demanded. Price will rise until new equilibrium is reached at price P2 and quantity Q2.

At output Q2, quantity demanded equals to quantity supplied and consumer surplus and producers surplus are maximised as shown by area P2ce1 and P2ep respectively. The right amount of goods is thus produced from society's point of view, assuming no externalities.

L1: Hence prices which is driven by demand and supply forces helps address the problem of what goods and how much to produce such that there will be efficiency in resource allocation.

P2: In addition, prices also help determine how to produce

Firms make decisions on how to produce based on their profit maximising objective. The decision making process concerns on how to produce include many decisions, for example, should the firm use more machines or labour, where should the factory be located and how should the factors of production should be combined to generate an efficient combination of resources to ensure a profit maximising level of output.

In the long run all inputs are variable and therefore the firm is able to choose the best combination of inputs that gives the firm the lowest unit cost possible. Firms tend to use more of resources with lower prices and less of resources with higher prices. If capital is relatively cheaper than labour, then to lower his costs, the firm will switch to using more capital and less labour. For example the rising labour cost in Singapore as seen many restaurants turning to using iPad to take orders instead of relying on waiter.

L2: Thus prices of factor of production will help firms determine how to produce such that the least cost combination of input is used and there is no wastage in the use of resources.

P3: Lastly, prices also help determine for whom to produce

Different people are willing and able to pay different prices for a good. This is partly due to differences in incomes and tastes and preferences. In a market economy, consumers' dollar votes or the willingness and ability of consumers to pay for a good determine the pattern of resource allocation. Those who are able and willing to pay a higher price will exert a greater influence on resource allocation.

L3: This illustrates that price consumers are willing to pay largely influences resource allocation decisions where the consumer is king in the free market.

Conclusion

Due to the problem of limited resources and unlimited wants, factors of production must be utilised as efficiently as possible to produce the goods and services most desired by the society. Economists believe that prices that are driven by demand and supply forces will address the problem without government intervention.

L3: 8-10	<ul style="list-style-type: none"> • Good knowledge and explanation of the fundamental economic problem • Clear explanation of how prices can help address the question of what and how much to produce, how to produce and for whom to produce. • Answer should also show the role of prices in achieving allocative and productive efficiency • Detailed price adjustment process with well labelled diagram
L2 5-7	<ul style="list-style-type: none"> • Some understanding of the fundamental economic problem. • Some attempt to explain how prices can help address the question of what and how much to produce, how to produce and for whom to produce • Weak/no attempts to show the role of prices in achieving allocative and productive efficiency • Diagram and price adjustment process explained in answer.

- (b) Discuss the relative importance of demand and supply factors in influencing Singapore's medical inflation rate. [15]

Introduction

Prices of medical services in Singapore has risen rapidly as evident from the climb in medical inflation rate to 15% in 2015. In this essay we will be examine the demand and supply reasons for the sharp rise in prices and determine the most important factor that drives the rising price of medical services in Singapore.

Body

P1: Ageing population in Singapore is the most important demand reason for the rise in medical inflation rate.

In Singapore the number of citizens aged 65 and above is increasing rapidly, as population growth slows. The size of this group of citizens doubled from 220,000 in 2000 to 440,000 today, and is expected to increase to 900,000 by 2030. As such demand for healthcare services is expected to increase significantly. This is because older people are more likely to develop complex and chronic diseases, like diabetes. Furthermore one such disease is also likely to cause another and stay with us for life.

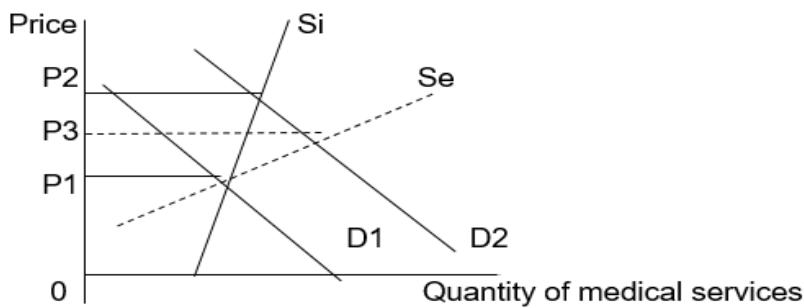
P2: The rise in medical tourism could be another demand factor that contribute to the medical inflation rate.

There has been a growing number of overseas patient seeking treatment in Singapore. This increasing numbers of patients could be largely due the increasing number of excellent medical infrastructure in Singapore. Several world-class medical facilities have been added in the recent past. One such example of the quality healthcare service provided can be seen in the four-year-old Mount Elizabeth Novena Hospital. The hospital has 13 operating theatres and provides a wide range of specialised medical and healthcare services. It attracts a large number of foreign patients and has built a reputation for offering top-of-the-line medical care as well as facilities that are on par with five-star hotels.

Ev: Although Singapore may still be among the region's top dogs when it comes to medical tourism, its neighbours are swiftly closing the gap. Lower costs and the growing availability of quality care in neighbouring countries are luring medical tourists away from Singapore and also encourage patients to stay home for treatment. This therefore dampens the impact that medical tourism has on demand for healthcare services in Singapore. Hence the main demand factor the influences the medical inflation in Singapore is likely to be that of ageing population.

P3: Price elasticity of supply for medical services is also contributes to the extent of the price increase in medical services.

Supply of medical services is likely to be price inelastic as construction of new hospitals and training of medical staff takes a few years. Hence the lack of ready staff and hospital beds available will make it difficult to increase the quantity supplied of medical services. Any increase will thus only bring about a less than proportionate increase in quantity supplied. As such when there is an increase in demand, a sharp price increase from P1 to P2 will be required to eliminate the shortage. This is in contrast to when supply is price elastic where there is only a small price increase from P1 to P3 as demand increases.



Ev: However the supply for certain healthcare services such as those provided by eldercare centres and private general practitioner clinic may be price elastic. This is because construction of such clinics and centres and the training of staff in these areas (e.g. care staff and clinic assistant) takes a much shorter time. Hence the price elasticity of supply may not be the main reason for the sharp increase in price of medical services.

P4: The rising cost of production which affects the supply also influences the medical inflation rate

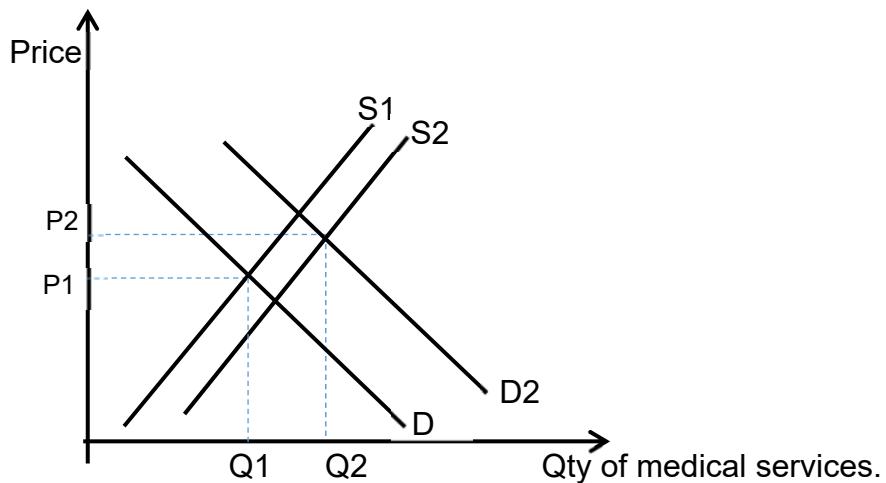
The cost of running a medical practice has gone up tremendously over the past few years. Singapore's ageing population and the tightening of the immigration policies has led to an acute shortage of skilled medical personnel. Nurses, therapists, dieticians, pharmacists, attendants, radiographers and receptionists are in short supply. Furthermore rental cost are also on the rises in a land scarce Singapore. The rent of private medical clinics have also gone through the roof. The price of a medical suite at established private hospitals is more than twice that of the most-expensive condominium on Orchard Road. In addition medical innovations which open new (though often expensive) treatment options also adds to cost (in the form of new medicine and new medical equipment). All these increases in will eventually lead to higher medical fees.

Ev: Despite the rising cost of proving healthcare services the supply of healthcare services is likely to increase

This is because Singapore government has pledge to spend more on healthcare in order to cope with the rising demand. Within the next five years, Singapore will build six more general and community hospitals, four new polyclinics and more nursing homes and eldercare centres across the island. Therefore the rising supply should dampen medical inflation rather than contribute to it.

P5: However there is still an increase in price of healthcare services as the increase in demand outweighs the rise in supply

With the changes in demand and supply, there is now a shortage of medical services. The shortage exerts an upward pressure on prices. Those who are willing and able to buy will offer a higher price to get the medical services they desire and producers in respond to it will increase the quantity supplied. There is both an upward movement along D2 and S2 and eventually the shortage is eliminated. The market is now at a new equilibrium where price has increased from P1 to P2 and quantity traded has also increased.



Conclusion

In conclusion, Singapore medical inflation is largely due to the rise in demand for healthcare services as a result of the ageing population. The ageing population trend also looks set to continue with Singapore's birth rate having been in decline since the 1960s. However with the supply becoming more price elastic in the long run and the further increase in supply the medical inflation rate is likely to fall in the future.

L3 8-10	<i>Thorough explanation of demand and supply factors with good use of examples. Answer makes good use of concepts of elasticity Choice of demand and supply factors highly relevant to the context of healthcare Well labelled and explained diagrams</i>
L2 5-7	<i>Demand and supply factor explained but no/weak use of examples. Concepts of elasticity not/poorly used Choice of demand and supply factors is poor Use of diagrams to support answer</i>
L1 1-4	<i>Splattering of points. Limited analysis. Cursory or weak journalistic approach. No use of examples.</i>
Ev3 4-5	<i>Synthesis and personal judgement. Considered all the factors raised when making judgement. Good use of analysis to support judgement</i>
Ev2 2-3	<i>Some attempt to explain why certain factor may be more important than others</i>
Ev1 1	<i>General statements without analytical support</i>

- 2 Falling labour productivity squeezes the profits of firms as their earnings fail to keep pace with rising labour costs. Fourth-quarter profits of US's top 500 companies have fallen to the lowest in two years.

Source: adapted from *cnbc.com*, 17 February 2015

Assess the extent to which the type of market structure determines the survival of a firm given a fall in labour productivity. [25]

INTRODUCTION

Definition: labour productivity measures the output one unit of workers is able to produce and it affects the unit cost of production.

Direction: The labour productivity would affect firms in different ways depending on the market structure in which they operate. This essay will show how the type of market structure, the strategies of a firm and government intervention will determine the sustainability of a firm given a fall in labour productivity.

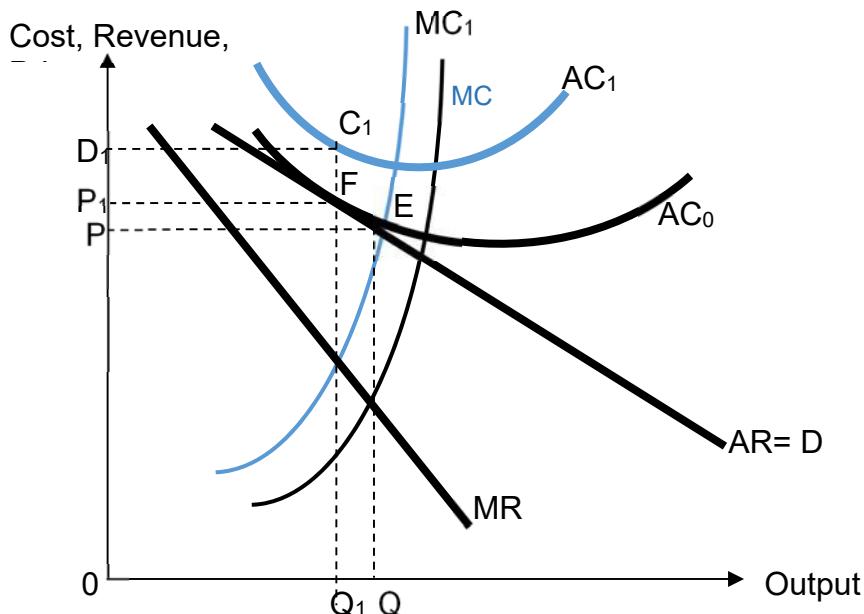
BODY

P1: A fall in the labour productivity will lead to higher average cost and marginal cost.

To determine the profit-maximising output level, the firm will produce up to the level where the **addition to total revenue from the sale of the last unit of output equals to the addition to total cost that results from the production of that last unit** at the rising portion of marginal cost (MC) curve. In other words, marginal revenue (MR) is equal to marginal cost of the last unit of output produced, and MC is rising.

Assume that a firm makes normal profit initially. Suppose the market price is OP . The firm's profit is maximised at output OQ . Total revenue (TR) is the area $0PEQ$ while total cost (TC) is also area $0PEQ$. Since TR is equal to TC, the firm earns only normal profit (breaks even).

When there is a fall in the labour productivity, average cost (AC) curve will shift up from AC_0 to AC_1 . MC rises from MC_0 to MC_1 . As a result, its new equilibrium price rises to OP_1 and output drops OQ_1 respectively. The new TR experienced by the firm is OP_1FQ_1 . And the new total cost is $OD_1C_1Q_1$. Hence, its profit would fall from zero to $P_1FC_1D_1$ which is a loss.



P2: In the short run, the sustainability of a firm depends on whether its total revenue is more or less than total variable costs.

E: Fixed costs are costs that do not vary with the level of output. A firm will incur fixed costs in the short run even if it does not produce any output. Examples of fixed costs are rent and cost of administrative staff. Variable cost is the cost of hiring the variable factors. It varies directly with the level of output. When output is zero, total variable cost is zero. When output increases, total variable cost increases. Examples include the total wage payment for workers and the cost of raw materials. The firm's fixed costs are irrelevant in this decision-making process because the firm has to incur fixed costs whether he decides to produce or not produce in the short run.

a) Sustainable despite making a loss if TR > TVC

When $TR > TVC$, this means that the firm is able to cover not just its variable costs but also part (not all) of its fixed costs. Hence, its loss is equal to only a portion of its fixed costs that is not covered by its total revenue (see Example A below).

Example A

Total Revenue	=	\$4 500
Total Fixed Cost	=	\$2 000
Total Variable Cost	=	\$3 000
Total Loss	=	\$500 if the firm continues production.

On the other hand, if the firm were to shut down, it will still incur total fixed costs of \$2000. However, since it shuts down, it cannot earn any revenue. Hence, it will incur a loss that is equal to its total fixed costs ($TFC = \$2000$).

By comparing the two scenarios, the firm will minimise its loss if it continues production.

b) Unsustainable if TR < TVC

However, when a firm is unable to cover its total variable costs i.e. total revenue is less than total variable cost, it should cease production immediately. In Example B below, if it stops production, its loss = \$2000 (= TFC only).

However, if the firm stays in production, it will incur a greater loss of \$2 500. (= $TFC + \text{part of TVC}$).

Example B

Total Revenue	=	\$2 500
Total Fixed Cost	=	\$2 000
Total Variable Cost	=	\$3 000
Total Loss	=	\$2 500 if the firm continues production.

Thus, in this case, loss is minimized only if the firm shuts down completely and leaves the industry.

P3: However in the long run the sustainability of a firm will depend on whether total revenue is more or less than total cost.

E: In the long run, since all factors are variable, there are no fixed costs. In other words, all costs in the long run are variable costs. A firm that is making subnormal profit in the long run is unsustainable and will leave (force out of) the industry to minimise loss since TR is unable to cover its TC .

L: Thus even though losses are made due to the falling labour productivity, the firm might not be forced out of the industry in the short run. However it will exit the industry in the long run if the losses persist.

P4: The type of market structure can influence the sustainability of a firm given a firm in labour productivity as the market structure determines the long run profits the firms earn.

E/E(a): Firms in monopolistic competitive industries tend to make normal profits in the long run due to free entry and exit. With a fall in labour productivity, average cost rises and the firm will be making a sub-normal profit. If total revenue is unable to cover its total variable cost in the short run it will be unsustainable and the firm will have to shut down. Even if total revenue is greater than total cost, the firms may still be unsustainable in the long run if the loss persist. The firm will have to shut down if its total revenue is less than its total cost.

In contrast, firms in industries with high barriers to entry and relatively lesser competition, such as firms in monopolistic or oligopolistic industries may be less affected by falling labour productivity. Barriers to entry are obstacles that prevent new rival firms from entering the industry. Examples of barriers to entry are large economies of scale, high initial cost of starting the business, government licensing and control of key resources or raw materials. Due to the protection from competition by high barriers to entry, the less competitive firms can enjoy supernormal profits in the long run. Even with the rise in average cost, firms in these industries may still be able to make supernormal profits and be sustainable. However, the supernormal profit is less than what the firm was making before.

E/E3b: In addition since firms in monopolistic or oligopolistic industries can earn supernormal profits in the long run due to the presence of high barriers to entry, they have the ability to innovate. As a result, oligopolistic firms may be able to influence the taste and preferences of consumers and boost demand and hence total revenues despite falling labour productivity. For example, Apple continues to roll out new phones each year even when the global economy was still weak. With successful marketing, Apple captured a larger market share in the smartphone market. Innovation could also result in lower cost of production if it results in a more efficient method of production. Hence, oligopolistic firms that successfully innovate may still be able to enjoy rising profits despite falling labour productivity and be sustainable.

EV: However, the sustainability of such firms is not guaranteed. Firstly if the fall in labour productivity results in a significant rise in cost of production, a loss might be incurred and variable cost could still be higher than the revenue. Secondly firms could also face the threat of creative destruction. For example, the video rental market in many countries used to be dominated by Blockbuster Video. However with the advancement in technology, Blockbuster video lose its barriers to entry as firms could turn to the online platform to rent out videos instead of rely on physical stores to rent out videos. With that more firms like Netflix began entering the market and Blockbuster began losing its market share and eventually had to file for bankruptcy and shutdown.

P5: The sustainability of a firms also depends on the strategies the firms employ to deal with falling profits as a result of falling productivity.

Different firms would apply different strategies to deal with the falling profits. Apart from R&D firms could also look to simple product differentiation to boost their revenue and thus profits. For example bakeries often come out with new flavours for the bread to attract customers and boost their demand. Other firms may also look to reduce their cost by sourcing for cheaper alternatives. For example a printing company can now easily source for cheaper ink cartridge from overseas market as globalisation and advancement in digital technology has made it easier to purchase goods from overseas market.

EV: However such strategies may not be effective in keeping the firms sustainable. This is because demand strategies to differentiate their products can sometimes be easily replicated by others. This would thus negate any initial impact it had on revenue.. Strategies to source for cheaper alternative could also compromise quality of the final product and thus demand.

This is because the cheaper alternative may be of inferior quality. If the fall in revenue as a result of a fall in demand outweighs the cost savings profits will still fall.

P6: Government intervention could also affect the sustainability of a firm.

For example, certain firms may continue to operate despite heavy losses. One such example is Ceylon Electricity Board which is a state owned firms. With a market share of nearly 100%, it controls all major functions of electricity generation, transmission, distribution and retailing in Sri Lanka. The government continues to sustain the firm through revenue it gets from direct or indirect taxes as electricity is an essential market and it cannot afford to shut it down. Alternatively governments could also subsidies firm in infant industry and thus allow firm to continue operating despite its losses. This is because the government believe that firms in this industry will eventually grow and gain comparative advantage. This would allow them to turn their losses into profits.

EV: However if the government revenue does not increase and government decides to increase spending on other areas, (e.g. healthcare or training of workers) the support for these firms could eventually be removed. Such a firm may then become unsustainable and shut down. For example Tanzania announced recently that it plans to shut down all loss making state own companies as it seeks to grow its economy to a middle income economy.

Similarly support for infant industry may be withdrawn by the government if they feel that the industry is not growing as expected and is unlikely to become profitable.

Conclusion:

Although market structure can influence the sustainability of a firm to a certain extent, a firm's sustainability in the long run is still largely dependent on how the firms react to the ever changing cost and revenue conditions. This is because regardless of the market structure or government intervention, a firms can make losses. These losses will persist in the long run unless effective strategies are employed to turn them into profits.

L3 15- 20	<i>Answer shows good understanding that the sustainability of a firm is linked to shutdown condition. In addition answer should also consider how firms can remain sustainable in the long run (i.e. continue remaining profitable)</i> <i>Detailed explanation of shutdown condition in short run and long run</i> <i>Clearly explaining at least 2 different ways in which market structure has an impact on the sustainability of a firm given the falling labour productivity</i> <i>Carefully considered at least 2 other factors that could affect the sustainability of a firm</i> <i>Appropriate use of diagram(s) and examples</i>
L2 9-14	<i>Answers should some understanding of sustainability of a firm</i> <i>Some attempt was made to explain the shutdown condition of firms</i> <i>Understanding of how labour productivity affects profits levels and thus sustainability show be reflected in answer</i> <i>Answer must have explain at least one factor that could affect the sustainability of a firm</i> <i>Limited/Weak use of diagram(s) and/or examples</i>
L1 1-8	<i>Splattering of points. Limited analysis. Cursory or weak journalistic approach. No use of examples.</i>
Ev3 4-5	<i>Synthesis and personal judgement. Considered all the factors raised when making judgement. Good use of analysis to support judgement</i>
Ev2 2-3	<i>Some attempt to evaluate certain factors.</i>
Ev1 1	<i>General statements without analytical support</i>

- 3 (a) Using relevant examples from the goods and services market, explain how imperfect knowledge and asymmetric information lead to market failure. [10]
- (b) Evaluate the measures that are currently used by the Singapore government to correct these sources of market failure. [15]

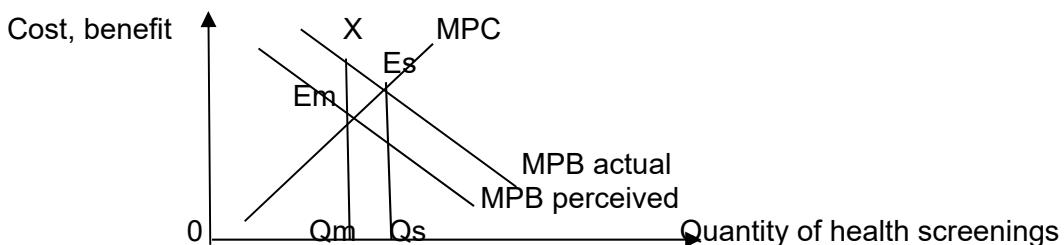
Intro

Market failure refers to a situation where resource allocation concerning what, how, how much and for whom to produce by the market mechanism fails to achieve efficiency in resource allocation and thus there is welfare loss to society.

Body

P1: Imperfect knowledge leads to partial market failure as the consumers fail to recognize the true benefit/cost of consuming a good to themselves and therefore under or overconsume it thus leading to allocative inefficiency

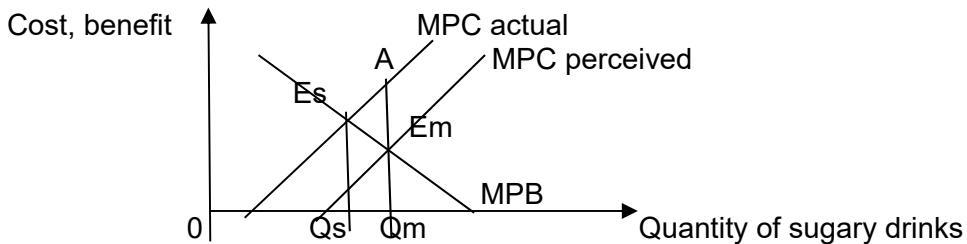
- **Imperfect knowledge** arises when consumers fail to recognise the **true private** benefits/costs **to themselves** of consuming certain goods and services due to incorrect/incomplete information about the **actual private** benefits/costs.
- An example would be health screening to detect early signs of illnesses. Consumers underestimate the true private benefit of regular health screening to themselves due to inaccurate information regarding their effectiveness or underestimate the likelihood of them contracting an illness. As such, consumer's perceived MPB < actual MPB. This leads to underconsumption of health screening



- Market equilibrium output level is OQ_m where MPB perceived = MPC
- Social optimum output level is where true costs and benefits are taken into account and there is perfect information. Assuming no externality, this occurs at OQ_s
- Since OQ_m < OQ_s, there is underconsumption of health screenings and partial market failure results
- Deadweight loss due to underconsumption is represented by area XEmEs
- Net benefit to society from consuming each additional unit of output Q_mQ_s are not realised due to imperfect knowledge

Alternatively, students can explain how overconsumption leads to market failure

Take the example of market for sugary drinks. Since the consumer underestimates the **true** private costs of consuming the good to themselves, perceived MPC < actual MPC. They fail to take into account the additional healthcare costs to be incurred in the long term to treat medical problems like obesity or diabetes from overconsuming sugary drinks.



- Market equilibrium output level is OQ_m where MPB = MPC perceived
- Social optimum output level is when true costs and benefits are taken into account and there is perfect information. Assuming no externality, this occurs at OQ_s
- Since OQ_m > OQ_s, there is overconsumption of sugary drinks and partial market failure results
- Deadweight loss due to overconsumption is represented by area AEmEs. Each additional unit of output consumed beyond OQ_s results in welfare loss to society because marginal cost > marginal benefit due to imperfect knowledge

P2: Asymmetric information leads to partial market failure in the form of causing adverse selection. This would lead to under consumption/under provision of a good leading to failure to achieve allocative efficiency.

Adverse selection is one outcome of asymmetric information which leads to market failure. It arises when the economic agents involved in a transaction have different amounts of information. It results in inefficient outcomes since the uninformed side of the market must choose from an undesirable or adverse selection of goods. An example is the market for second-hand cars.

Assume there are two kinds of 2nd hand cars sold in the market – low versus high-quality ones. If there is perfect information where both sellers and buyers know the quality of a used car, there would be separate markets for low and high quality cars. But because buyers could not tell the differences in their quality, there will only be one market for all used cars sold at a single price.

Sellers often have more information than buyers about the condition of the used cars they want to sell, be it knowledge of their defects, true mileage, whether the cars have met with any road accidents etc. In order to profit, sellers tend to conceal these relevant information about the low quality used cars in order to sell them at a higher price.

Worried that they might end up buying low quality used cars, buyers would offer a lower price. This in turn causes owners of good quality used cars to exit the market as they are reluctant to sell at the lower price. Hence, there is zero transaction of high quality used cars.

This will result in a situation where only lower quality used cars are sold since high quality ones are pushed out of the market. There is market failure as too many low quality products and too few high quality products are sold in the market. Asymmetric information results in the used car market adversely selecting against higher quality used cars in favour of lower quality used cars.

Adverse selection can potentially lead to a total market failure of a missing market for 2nd hand car market. This is because consumers are discouraged from buying altogether as all remaining cars in the used car market are of poor quality.

OR students can explain how moral hazard problem causes consumers to overconsume particular goods or service that may cause some risk OR underconsume

particular goods or service that can minimise potential losses, thus leading to allocative inefficiency

Moral hazard arises when the party who has more information about his own actions/intentions, take more risks than he normally would (that the other agent with less information cannot observe) because costs that could result would not be borne by himself.

An example would be health insurance. The individual because of the availability of health insurance may be less inclined to take care of himself since the payment from an insurance company lessens his financial burden when he is hospitalised. As such, underconsume preventive health care goods and services and instead overconsume food that are bad for his health in the long run. This leads to allocative inefficiency and the market fails.

Conclusion

In conclusion, the presence of imperfect knowledge and asymmetric information prevent an efficient allocation of resources in the markets for different goods and services. There is thus a need for government to intervene to correct such market failure so as to improve resource allocation to increase society's welfare.

Level	Descriptors
L3 8-10	<ul style="list-style-type: none"> • An answer that explains both types of market failure – imperfect knowledge & asymmetric information (for asymmetric information, <u>only 1</u> of moral hazard or adverse selection is expected) • Answer uses approp econ theory, examples, diagrams to show how market fails
L2 5-7	<ul style="list-style-type: none"> • An answer that explains only 1 type of market failure well OR • explain both types of market failure but lacks rigour with regards to econ theory
L1 1-4	<ul style="list-style-type: none"> • Answer is generally descriptive with little or no economic analysis • Able to define concepts of imperfect knowledge & asymmetric info • Able to express idea that mkt will produce a qty that does not maxi. social welfare

- (b) Evaluate the measures that are currently used by the Singapore government to correct these sources of market failure. [15]

Note: Of the 3 measures, 1 of them has to correct either adverse selection or moral hazard. Remaining 2 measures are to correct imperfect knowledge - can be public education cum campaigns, regulation, subsidies/taxes

Intro

Government intervention in the case of imperfect knowledge and asymmetric information aims to improve information flow between buyers and sellers to help them correct information failure in different types of products. The measures will be assessed in terms of - ability to address the root cause of market failure
- effectiveness
in achieving social optimum output level or at least lower welfare loss
- whether the benefits exceed the cost of intervention (long term fiscal sustainability)

P1: To correct market failure associated with ignorance due to imperfect knowledge, government uses public education, campaigns and regulations.

E/E1: Public education and campaigns help to reduce imperfect knowledge in different markets such as health screening, sugary drinks, cigarettes, alcohol etc. For example, by educating the people on the harm of sugary drinks, they become more aware of the true MPC of consuming sugary drinks.

Quantity consumed will reduce to the social optimal level to close the gap between actual & perceived MPC. Public education and campaigns thus address the root cause of imperfect knowledge as it provides consumers with information about the true MPB or MPC to themselves. Deadweight loss would be eliminated to achieve allocative efficiency.

To educate the public on the dangers of consuming too much sugar, the Health Promotion Board updates frequently diabetes awareness messages and programs on their website, encourage schools to stop selling or sell less sugary drinks, organise competitions to promote healthy food preparation etc. Government has also installed more water coolers in public spaces to encourage people to cut down on flavoured drinks. There are also guidelines drawn up to get food manufacturers to reduce the amount of sugar used in their products.

Strengths & limitations of public education & campaigns

(+) Their strength lie in the ability to **encourage and change** public's perception of the good.

(-) However the effectiveness in bringing consumption level to the social optimum level is uncertain as they are **not enforceable by law**.

EV1: Their effectiveness depends on the consumers' receptivity, government's ability to message convincingly as it is difficult to change peoples' mindsets and habits within a short time span. People may not heed the advice due to ingrained habits that are hard to change. To complement the above, government in Singapore has used **regulation** such as labelling

P2: Government subsidies are used to correct market failure arising from imperfect knowledge in the market for health screening

E/E: Besides public education and campaigns, subsidies will also help greatly to reduce imperfect knowledge particularly in the market for health screening. Subsidies will induce consumers to **increase quantity demanded to the social optimal level that is efficient from society's point of view as it closes the gap between actual & perceived MPB. Deadweight loss would be reduced if not eliminated to achieve allocative efficiency**.

In a move to raise Singaporeans' health level through early detection and treatment of medical problems as well as to prevent bills from spiralling out of control later, the government in 2017, launched a highly subsidised national health screening programme. They can get tested for diabetes, cholesterol, blood pressure and cervical cancer for \$5 at most, at the Community Health Assist Scheme (CHAS) clinics across the island. Thus heavy subsidy from government will reduce the underconsumption and correct market failure.

Strength: Effective measure to raise quantity demanded to social optimal level if PED > 1

Limitation: Government may suffer from incomplete information. If it overestimates the actual MPB and grants a subsidy per unit that is more than optimal, this would lead to consumption level that exceeds the socially desirable level.

EV: An opportunity cost will always be incurred whenever the government decides to give a subsidy. By subsidizing the national health screening programme, it would mean less government budget to spend on other social aspects like education. This opportunity cost may be too high for a country to bear. **Though Singapore has enjoyed past accumulated budget surplus, government still have to consider** its budget position when implementing policies to correct imperfect knowledge for healthcare services which require substantial government funding.

As for asymmetric information

P3: To address adverse selection, government's legislation is used to correct the market failure

E/E1: Governments can address adverse selection through implementation of **Lemon Law**. It requires retailers to replace, exchange or give refunds for defective goods to the consumer within 6 months of delivery date when they unknowingly purchase a faulty or low-quality product while thinking they were purchasing a high-quality one. When such a law has been implemented, consumers are now willing to pay a price as if they are purchasing a high-quality car even when they are unsure. This would ensure that prices are kept high enough that the sellers of high-quality cars do not exit the market and thus preventing the problem of adverse selection.

Strengths and Limitations

(+) Lemon law reduces the risk that consumers take when facing adverse selection as they are able to recover their money if they unknowingly buy a low quality product. Thus they do not incur a loss of welfare.

(-) Lemon law may not always be well understood. Some consumers may misunderstand this to be like a warranty and be careless with the second-hand cars they buy and trying to claim a refund for damages that they cause themselves. This causes a situation of moral hazard if they successfully abuse the lemon law as they no longer bear the cost of their reckless behaviour. This abuse could lead to sellers of second-hand cars to be reluctant to sell their cars as they are wary of being taken advantage of by unscrupulous buyers. In such a situation, the government intervention is undesirable as it could potentially collapse the market for second-hand cars.

EV

- effectiveness of legislation depends heavily on government's ability to successfully implement and monitor it to prevent abuse by consumers. Clear education on the rationale and usage is required to reduce abuse and misinterpretation. Countries with a well-educated population who can understand the law and a transparent legal system would likely find such a policy effective.

Conclusion

Singapore government addresses the information gap with a mix of policies. To ensure relevance and effectiveness, government needs to regularly review the effects of its intervention on market outcomes. Of all the measures explained, legislation can be considered to be relatively more effective as it ensures certainty of outcomes. Appropriateness of measures depends on availability of government funds of which Singapore does not have too much of a problem because it can tap on its past accumulated budget surplus.

Level	Descriptors
L3 7-10	<ul style="list-style-type: none"> - An answer that explains 3 measures (2 in detail), addressing both sources of market failure (suggestion: 4m, 3m, 2m for 3 measures, 1m float) - Answer must include an analysis of strengths / weaknesses of measures - Include application to Singapore's context
L2 5-6	<ul style="list-style-type: none"> - explains at least 1 government measure in detail - OR 2 government measures adequately done

L1 1-4	<ul style="list-style-type: none"> - A generally descriptive answer lacking in economic analysis - Limited explanation of different government measures to deal with the market failure
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Level	Description
E3	<p>For an answer that uses analysis to support an evaluative conclusion or judgement. Made reasoned attempt at evaluation on limitations of policies relevant to the question</p> <p>Articulates clear criteria on how to judge when measures are effective</p>
E2	<p>For an answer that makes some attempt at evaluation or a judgement</p> <p>Attempts to justify the conclusion but answer is lacking in rigour</p>
E1	For an answer that gives largely unsupported evaluative statement(s)

- 4 In the past decade, we have seen an explosion of technological advances in the way we work, live and play. Whilst this has impacted economic growth, some gains from technology do not always show up in the growth numbers.
- (a) Explain the factors that can affect sustainable economic growth of a country. [10]
- (b) Discuss the problems associated with using gross domestic product (GDP) as a measure of the standard of living of a country and why it might be increasingly challenging to rely on GDP for this purpose. [15]

INTRODUCTION

Define sustainable economic growth : rise in real GDP into the long run, at a rate which can be maintained without creating significant economic problems such as price instability, environmental and resource depletion for future generations.

Direction of answer: State that the factors which can affect sustainable rise in real GDP includes factors that can bring about a sustained rise in both aggregate demand and aggregate supply.

BODY

P1: The rise in aggregate demand for domestically produced goods and services such as from the household sector, firms, government and the foreign trade sector can be caused by a rise in the income of a country.

E For example when there is a rise in its national income, the level of **consumption** for consumer goods and services such as normal and luxury items such as electrical and electronic household goods, houses and cars can also rise as household's power increases. In the same way if there is global economic growth, a country's **net exports** are given a boost. This has been true for trade dependent countries like Singapore where world economic growth brought about a rise in global purchasing power and hence witnessed increased demand for Singapore exports such as high end electronic, pharmaceutical and petrochemical products. This will incentivise firms to increase **investment** on capital goods and expand their business to meet the rise in consumption and exports. The **government** can also increase aggregate demand by encouraging more spending through an **expansionary** fiscal policy by increasing its own capital expenditure such as building physical infrastructure and/or reducing taxes to increase the level of AD in the country.

E A rise in this injection will shift the aggregate demand curve outwards to AD₁, boost production and income not just by the initial amount of the injection but also a multiplied amount due to induced consumption arising from this initial rise in income. Hence bringing about actual economic growth. The extent of the rise depends on the size of the multiplier which is inversely related to the marginal propensity to withdraw. The smaller the propensity to withdraw, the bigger the size of the multiplier and effect on the rise in real GDP. This would be true of countries like USA where there is less leakages out of their circular flow of income through savings and imports as compared to Singapore (*alternative explanation : the resulting shortage will cause price to rise which incentivises greater production by the profit maximising firms, causing a movement along AS₀ curve. At the same times, as price rises, the level of AD falls along AD₁. This price adjustment process continues until the shortage is cleared and a new equilibrium is achieved with greater output at OY_{Fo} as seen in figure 1 below*)

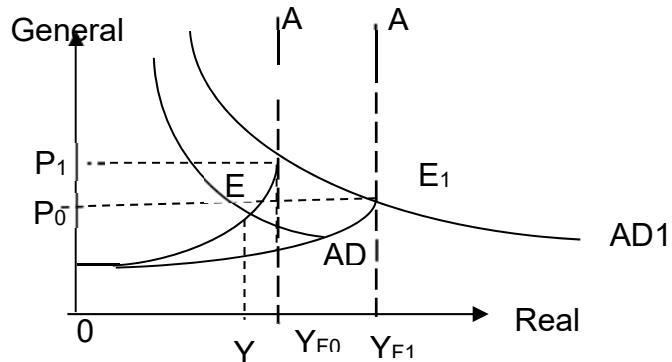


Figure 1 : Sustainable rise in real GDP

P2: However, a rise in aggregate demand **alone** will not ensure sustainable economic growth. This is because an economy will overheat and raise the general price level to OP₁ when it reaches full employment of resources. Real GDP remains stagnant whilst the country struggles with rising prices. Hence another key factor to ensure real GDP continues into the long run would involve increasing the quantity and quality of resources and the level of technology.

E: An example would be a country's human resource development where many countries keep a tab on population growth data and size of their labour force. In particular, countries with challenges of ageing population like Singapore, China and Japan have seen government's **continued investment in human capital** to improve the quality of their workforce of both young and old through skills deepening and lifelong learning to sustain a rise in aggregate supply. Shortage of skilled labour would constrain economic growth in the long run due to a limit to the rise in its potential growth.

Singapore labour productivity drive can be seen in Enhanced Continuing Education and Training (CET) Masterplan in 2014 which include online training courses that adult learners can access at their own pace, in their own time. In addition, the 2015 **SkillsFuture** attempts to develop an integrated system of education, training and career progression for Singaporeans, promote industry support for workers to advance based on skills, and to foster a culture of lifelong learning. This will increase the productive capacity of the country and enable the aggregate supply to continuously shift outwards. Figure 1 shows a rise in both greater potential output to OYF₁ and actual output in the long run at OYF₀ and a lower price at OP₀.

P3: In addition, this sustainability depends on whether factors of production will be depleted in the long run eg non-renewable resources such as oil. Similarly, environmental issues arising from greater production can affect sustainability. In such a case, a factor ensuring sustainability would be new technology that harnesses environmental friendly and efficient methods of production

Conclusion

Hence, factors influencing the rate of growth of aggregate demand and aggregate supply can determine whether a country's economic growth is sustainable. It requires both actual and potential growth as well as a sustainable environment and resources pool in the long run.

Level 3 8-10	<ul style="list-style-type: none"> • Thorough explanation of factors affecting AD and AS and hence real GDP. <p>Eg: national or global incomes, quantity, quality of resources and technology.</p> <ul style="list-style-type: none"> • At least 3 clear factors. • Well labelled Diagram included and weaved into answer.
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	<ul style="list-style-type: none"> Concept of sustainable economic growth is clear: actual, potential, price stability and environmental and resource depletion issues.
Level 2 5-7	<ul style="list-style-type: none"> Sufficient explanation of how a component of AD and AS can raise/or reduce a country's real GDP Sufficient explanation of a factor that could affect AD and AS. Or 2 factors well explained either AD/AS [Marked to max 6marks with other peripherals]. May or may not have illustrated graphically.
Level 1 0-4	<ul style="list-style-type: none"> Splattering of points Some mention of rise in real GDP as endpoint Some mention of AD and AS as factors that can raise or reduce GDP <p>Some mention of actual and potential and or environmental and resource issues</p>

- (b) Discuss the problems associated with using gross domestic product (GDP) as a measure of the standard of living of a country and why it might be increasingly challenging to rely on GDP for this purpose. [15]

Introduction

Define terms:

GDP: total value of goods and services produced in the country per period of time. The **standard of living** measures the well being of the average citizen and refers to both the level of material and non-material well-being of an individual or household. Material well-being is measured by the quantities of goods and services **an average household** can consume while the non-material well-being is measured by other factors affecting quality of life.

Direction of answer: Problems associated with using GDP are both statistical and conceptual as it measures only the material standard of living and even so, there are inaccuracies and limitations in using it to measure material standard of living.

Body

P1: One problem associated with using GDP is that it measures only the total income of the country and does not take into consideration the population size and how this national income is distributed amongst the various groups of people.

GDP is a common yardstick used to assess the well-being or standard of living of the people in a country. The higher the GDP, the higher national income earned. Assuming the real income has increased after discounting for inflation in the country, the higher will be the ability of its people to buy more quantities of goods and services. With more wants being satisfied, the material standard of living is thus said to have increased.

Explain problem: However, the population size also needs to be taken into consideration in order to arrive at what an average household is able to consume. This is because a large total income of the country could be due to a large labour force. For example, China's GDP could have risen but if its population also rises and rises by a greater rate, its real GDP per person would have fallen. Hence, care need to be taken to use real GDP per capita or GDP per household as a more reliable indicator for any country.

Explain 2nd problem: In addition, real GDP per capita is just a statistical mean and it does not reflect the **income distribution** among the people in the country. This is because firstly GDP figures do not necessarily coincide with employment figures. Secondly, it says nothing about the income earned between the entrepreneurs and the rest of the labour force. Hence, an increase in real GDP per capita does not mean that all individuals benefit equally from economic growth as there could be wide disparity in the distribution of income, even within the

labour force. If the distribution of income become more unequal as the country enjoys economic growth such that the MINORITY rich become richer, for example high skilled workers, while the majority of the poor remains poor with low wages in low skilled jobs, then on average, SOL has worsened.

For example, in some years, in spite of its continuous growth in GDP figures, Singapore's income gap, as measured by the Gini coefficient has increased. In fact, its income gap is one of the widest among developed countries at **0.478** before factoring in government assistance and redistributive measures.

Discuss problem: Nevertheless this is largely a statistical problem. Using both real GDP per capita and a supplementary measure such as the Gini coefficient which measures the degree of income gap would enable a more accurate assessment the country's material standard of living.

P2: In addition, the size of the contributions of the **various components to GDP** also pose a problem in ascertaining standard of living. GDP measured by the expenditure method comprised spending by government, households, firms and foreign sector. Hence, if the large GDP value is due to government expenditures on defence and war overseas, it does not necessarily convert equally to a rise in national income for its citizens.

Other statistical problems concerns the fact that GDP takes into account only the value of market transactions. "Do- it- yourself" services like painting your own house instead of paying for the service of a contractor, which may be substantial, do not enter into GDP computation and may underestimate the actual value of economic activity if it had been provided at a fee in the market. In addition, the proliferation of many online transactions and free digital services are not captured in the GDP figures. Free whatsapp services provided by various agents and online surfing does away with the need for services at a fee. The problem is that GDP assigns a zero value to goods with a zero price, and so the value of a flux of free apps today does not enter into GDP figures

Discuss problem:

Hence, some caution should be exercised as the GDP figure would either overstate or underestimate the material standard of living. This fundamental problem of including only market transactions and quantity figures therefore is made more difficult in today's technological age. (**any one statistical problem on material standard of living thoroughly explained**)

P3: The other problem is that even economists agree that indicators more intricate than just GDP are needed to ascertain if life is better or has improved for individuals as it does not measure the non-material SOL

Explain problem

E Real GDP per capita figure represent value of *output* of final goods and services produced in a year, but does not reflect changes in the *quality* of goods and services nor the non-material standard of living. While output in quantitative terms has improved over the years, the *quality* of life may have suffered. This is especially true of countries where rapid industrialization has been accompanied by high level of water and air pollution with the dumping of waste carbon emissions from the running of factories. These negative externalities, i.e. external costs, are ignored in national income accounting even though they diminish the quality of life eg increase health problems.

In addition, an increase in the real GDP may occur because the labour force is working longer hours or putting in more effort per unit of time. If it is true, fewer hours are available for leisure, for families and friends. Hence, the non-material standard of living may not have improved. It might even lead to higher level of stress and medical problems and adverse social effects like

neglected children and juvenile delinquency. A U.S. Bureau of Labour Statistics report indicates that of the 20 countries covered, average annual hours worked were highest in Singapore at well over 2000 hours, in 2011. In contrast, Singapore was ranked 20th in terms of GDP per hour worked (an indicator of a country's productivity).

The lack of social amenities and education services will also affect the non material aspect of life. Hence, a high GDP figure itself can overstate the standard of living of a country.

Discuss the problem: Increasingly the stress level does not appear to have abated for some in many developed countries, even as some value work life balance and measure quality of life with less income but more quality time for self and family. A case in point is the recent case of "superstar CEO" like electric car manufacturer, Tesla's, Elon Musk who has been reported to spend long nights at his Tesla factory. Hence, the non-material standard of living of the quality of life may suffer and GDP could have grossly overstated its measure of the standard of living

The issue is to what extent GDP per capita is a fundamental measure of standard of living as one would need a reasonable level of material of standard of living to have a roof over the head, food on the table and education. A higher material standard of living can also increase the quality of life with the consumption of more goods and services. Therein lies the **extent of the problem** of using GDP.

Evaluation

Hence, there have been continuous attempts to have supplementary measures to reflect better a country's material and non material standard of living. The Physical Quality of Life index (PQLI) pioneered in 1979 by the Washington-based Overseas Development Council supplements Real GDP per capita with infant mortality rate and life expectancy. Another more comprehensive and holistic indicator of measuring SOL is the Human Development Index (HDI) provides a composite measure of three dimensions of human development: living a long and healthy life (measured by life expectancy), being educated (measured by adult literacy and gross enrolment in education) and having a decent standard of living as measured by GDP at purchasing power parity. The MEW (measure of economic welfare) is an attempt to factor in the values gained from leisure, social amenities and the costs of externalities like pollution.

Even so, these statistical and conceptual difficulties can become increasingly challenging in today's world, especially for countries that arrives at a more sophisticated stage in its development and people seek to **redefine and measure quality of life**. For example, increasingly the stress level does not appear to have abated and debates of quality of life continue. Issues of widening **income equality** may also continue to be a challenge in a rapidly globalised world.

Conclusion

Whilst statistical problems may be technically easier to resolve with increased sophistication in data collection, the challenge remains in the measure of the non material aspect of life such as happiness and quality of life can be subjective and hence differs within the same country. Hence more robust studies on quality of life issues will help improve GDP as a measure of standard of living. (*Increasingly with the quickened pace of globalisation where a country's citizens seek employment out of the country, attention should also be given to GNP that measures the contribution to national income of its citizens.*)

Level 3 7-10	<ul style="list-style-type: none"> Explained and discussed clearly and thoroughly (at least 3, with at least 1 non material measure problem) Competent Technical grasp of concept
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	<ul style="list-style-type: none"> • Good use of examples.
Level 2 5-6	<ul style="list-style-type: none"> • <i>Explained sufficiently at least 3 pertinent problems for material and non material sol</i> • <i>Discussed sufficiently the problem, eg, extent, nature of problem, statistical, conceptual.</i>
Level 1 1-4	<ul style="list-style-type: none"> • <i>Splattering of points. Limited analysis. Cursory or weak journalistic approach.</i>
Ev3 4-5	<ul style="list-style-type: none"> • Personal voice/synthesis on whether it might be increasingly difficult and why/why not (any one well explained with mention of a second) • Insights on current difficulty of measuring technology impact on cost and benefit on GDP and quality of life.
Ev2 2-3	<ul style="list-style-type: none"> • Some support for stand or clear statement on which discussion is based. • Eg, income inequity rising with globalisation trend <i>Definition of quality of life is subjective using Singapore examples</i>
Ev1 0-1	<ul style="list-style-type: none"> • General statements without analytical support • Listing of relevant points that relates to body of answer

- 5 Explain why a government should be concerned with deflation and assess the relative effectiveness of alternative demand-side policies that a country could adopt to tackle this problem. [25]

Intro

Deflation is a situation where the economy faces a ***persistent fall*** in general price level. Governments should be concerned especially when it is caused by a ***persistent fall in AD*** which has adverse consequences on a country's ***macroeconomic goals***.

Body

P1: Deflation may lead to further fall in consumption which can worsen recession and cyclical unemployment

- Deflation often follows a **prolonged recession**. As AD falls, firms sell their unsold stocks at reduced prices and consumers delay their current spending as they ***expect further price fall*** (non-income determinant of consumption).
- Fall in current consumption leads to ***further fall in AD***, ceteris paribus → multiplied fall in real NY which deepens the recession.
- As firms reduce output further, ***derived demand*** for labour falls and cyclical unemployment rises.

P2: Deflation leads to a fall in actual and potential economic growth as investments fall due to business pessimism

- During a deflation, ***business sentiments*** worsen due to falling revenue caused by falling consumers' demand. It leads to firms reducing output and investment.
- Ceteris paribus, the fall in investment leads to a fall in AD thereafter multiplied fall in real NY and **actual economic growth**.
- Less incentive to invest in capital equipment will also reduce growth in economy's productive capacity. LRAS falls leading to a fall in **potential economic growth**.

P3: Deflation may worsen a country's balance of payment due to capital outflow

- During deflation, poor business sentiments arising from fall in real NY and GPL may lead to capital outflows as firms move their operations overseas. ***Capital account*** thereafter the country's balance of payments will worsen, ceteris paribus.
- The impact of deflation on country's ***current account is uncertain***. It depends on the price elasticity of demand for its exports as well as whether its trading partners will implement any counter measures eg. currency depreciation to curb the rise in its quantity demanded of cheaper imports from country facing deflation.

Level	Descriptors
L3: 8 – 10	<ul style="list-style-type: none"> • Thorough explanation of at least <i>3 concerns</i> of government where deflation adversely affects economic goals • Correct use of AD-AS framework with assumptions made (eg. assume other AD components eg. net X remain constant etc)
L2: 5 – 7	<ul style="list-style-type: none"> • Thorough explanation of 2 concerns • Adequate explanation of 3 concerns • Thorough explanation of 1 concern and 2 others adequately explained • Incomplete/inadequate explanations of how deflation adversely affects economic goals of government

L1: 1 – 4	<ul style="list-style-type: none"> • Explanation was mostly brief, limited or inaccurate with conceptual errors • End points (ie. govt's economic goals) are not clearly identified
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Assess the relative effectiveness of alternative demand-side policies that a country could adopt to tackle this problem.

To effectively tackle deflation, expansionary demand-side policies need to address the root cause and the economic conditions in the country.

P5: The government could implement aggressive expansionary monetary policy to address deflation caused by weak demand and overcapacity in the economy.

E/E1: When the **root cause** of deflation is the **lack of a sustained increase in AD**, the government could implement expansionary monetary policy to raise AD. When money supply is increased to reduce interest rates hence cost of borrowing, investors will be more incentivised to borrow and invest while consumers will be enticed to borrow to spend more on big ticket items. The rise in consumption and investment will lead to a **large rise** in AD, resulting in a shortage of goods and services as the economy moves closer to full employment. The policy thus addresses the problem of fall in economic growth and rise in unemployment seen during deflation. The large rise in AD not only helps to raise the general price level to stop the persistent fall in GPL, it also mops up the overcapacity caused by an excessive rise in capital goods which left many resources underuse in the economy.

EV: However, addressing the **root cause** of weak AD alone does not necessarily mean expansionary monetary policy is effective in tackling deflation. It also depends on the **prevailing economic conditions** in the country. A main limitation of the policy is that it depends on the responsiveness of consumption and investment to a fall in interest rates. If economic outlook for the future is bleak especially when deflation is caused by weak AD (**economic conditions**), the interest elasticity of C & I will be low. An extremely low or even zero interest rates may not encourage sufficient spending as households prefer to save more due to fear of wage cuts or retrenchment during a recession. Firms are also not keen to borrow to invest due to anticipated low returns. In addition, borrowing is further deterred since **real** interest rates will still be positive even when **nominal** interest rate is zero during deflation. This is seen in **Japan and Eurozone** where despite the central banks cutting interest rates aggressively, there was only a minimal rise in inflation rate due to a bleak economic outlook. Thus, when the rise in consumption and investment expenditure is not sustained, AD will not rise large enough to address problem of deflation.

E/E2: When above conventional monetary policy fails, governments even turn to unconventional monetary policy such as **quantitative easing**. It involves the central bank buying bonds from banks which then increases their money supply to encourage more lending by banks.

However the high risk of bad loans in a weak economy usually mean banks are reluctant to lend. This is why European Central Bank implemented a bigger than expected QE package in 2015 which help some countries in the euro zone to return to inflation levels close to 2%.

P6: When monetary policy has above limitations, government needs to combine it with fiscal expansion in order to bring about a sustained rise in AD to tackle deflation.

EV1: Unlike monetary policy whose effectiveness hinges on the willingness of private sector to spend, fiscal policy is more predictable since it is about increasing the government spending

to kick start the economy to create a positive multiplier effect on growth to reach its inflation target. Hence fiscal stimulus may be more effective than monetary policy.

E/E: When deflation is caused by a persistent fall in AD due to prolonged recession, an aggressive fiscal policy should be implemented to raise government spending and/or reduce personal income and corporate tax rates. The former will increase households' disposable income which lead to rise in consumption while a rise in firms' post tax profits will encourage investment expenditure. In all, there will be a **large rise in AD** to shift the economy out of spare capacity alongside a rise in general price level. In 2016, Japan government set aside 28 trillion yen on building critical infrastructure projects such as earthquake resistant roads, bridges and tunnels.

EV2: For fiscal policy to be effective in tackling deflation, there must be a **substantial rise** in G to bring about a **sustained rise** in AD. But the government will run into a budget deficit. Government borrowing money from the banks may lead to crowding out effect as it competes with firms for limited supply of loanable funds. Interest rates will rise which may deter investment and consumption. However due to deeply entrenched pessimism, crowding out effect tends to be minimal thus the rise in AD is expected to tackle deflation. However, fiscal stimulus policy may not be available to every government. Some eurozone countries like Spain, Greece are constrained by debt restriction which prevents the government from borrowing to finance its spending.

P7: To address deflation caused by external factors, currency depreciation would be a more effective policy than expansionary monetary and fiscal policies.

E/E1: When a country's key trading partners face a recession, it will lead to fall in demand for its exports. The fall in AD due to fall in net exports would result in a sustained downward pressure on general price level if the overseas recession is prolonged. Government could depreciate its currency by selling it and buying more foreign currencies in the foreign exchange market. Prime Minister Abe depreciated the yen to cause the price of exports to fall in foreign currency and price of imports to be higher in domestic currency. Assuming demand for both are price elastic, net exports will rise, assuming Marshall-Lerner condition is met (sum of price elasticity of demand for exports and imports are more than 1). When net exports rise, AD will rise alongside general price level thus tackling deflation.

EV: However a weaken currency does not always lead to a rise in its net exports. The country has to consider the **economic conditions** of its trading partners. If latter are facing a recession, even with depreciation, net exports might not rise. Furthermore, their trading partners might see it as a form of protectionist move and might retaliate. Increase in net exports hence AD will be limited hence it might not tackle deflation.

The **characteristics of the country** must also be considered to gauge the effectiveness of currency depreciation. If the country exports mainly primary commodities, there will be a less than proportionate rise in quantity demanded for its exports thus export revenue will fall instead. An import reliant country will also face a rise in import expenditure as import demand is price inelastic. Thus the rise in net exports via depreciation is limited, reducing its effectiveness in addressing deflation.

Assuming all the above 3 demand side policies are effective, they will lead to multiple rightward shifts of AD curve via the **multiplier process**. An initial rise in injections (G, I, X) will lead to an equal rise in national income which leads to a rise in induced consumption and withdrawal. Higher the MPC value, greater is the rise in induced consumption and national income. With multiple rise in induced consumption, it will mop up the spare capacity leading to a shortage as economy moves closer to full employment level. The shortage will result in an upward pressure on price thus tackling deflation (where economy operates on the elastic portion of AS curve).

Conclusion

Government must act swiftly to prevent deflationary expectations from being entrenched. Latter when set in, implies firms and households expect prices to keep falling which would render monetary and fiscal stimulus ineffective in stimulating domestic demand. Once there are indications of negative inflation rates, government needs to respond promptly with policies that not only address the root cause, but also take into account the country's characteristics and prevailing economic conditions. As each policy has their limitations, they must therefore work alongside each other to ensure a large/sustained rise in AD to create growth in real GNP so as to reach its inflation target.

Level	Descriptors
L3: 7 – 10	<ul style="list-style-type: none"> • Thorough explanation of at least 3 policies to tackle different causes of deflation • Ideas are well-supported by economic analysis with attempt to make reference to real world examples
L2: 5 – 6	<ul style="list-style-type: none"> • Thorough explanation of 2 policies correctly applied to solve deflation • Thorough explanation of 1 policy & adeq explanation of 2 others • Adequate explanation of 3 policies
L1: 1 – 4	<ul style="list-style-type: none"> • Explanation was mostly brief or inaccurate with conceptual errors • Undeveloped analysis
E3	For an answer that uses analysis to support an evaluative conclusion or judgement. Made reasoned attempt at evaluation on limitations of policies relevant to the question
E2	For an answer that makes some attempt at evaluation or a judgement
E1	For an answer that gives largely unsupported evaluative statement(s)

- 6 In recent years, the globalisation trend witnessed both threatening protectionist moves and increasing attempts at free trade agreements and economic cooperation. In Singapore, additional challenges are posed to its fundamental shift to become a mature economy with a high rate of local innovation.
- (a) Explain why in some cases protectionism may be justified. [10]
- (b) Discuss how a country like Singapore should increase its competitiveness in a globalised world which might become increasingly protectionist. [15]

Introduction

Define protectionism:

Protectionism is the use of government measures such as tariff and non tariff barriers to prevent free entry of imports to protect domestic economy/industries from foreign competition. It can involve the use of subsidies to promote the growth of exports.

State direction of answer: These measures are justified only in cases of infant industry with CA and in the short run, dumping and restructuring period.

Body

P1: Whilst protectionism may be argued to be on balance to be detrimental to countries' GDP growth in the long run, it may be justified based on the Infant industry argument

E This is because newly-established indy with potential source of CA are not yet able to compete internationally. Starting out as smaller outfit means that these firms are unable to reap substantial economies of scale and will not be price competitive. Keeping out international competition into the domestic market through protectionistic measures like tariffs on imported substitutes will enable these firms to grow and reap lower cost of production such as technical and marketing economies of scale which will also help them to compete internationally in the long run.

This is because the import tariff raises the price of the import and allows the domestic producer to compete at the same higher price but reduces the amount of import. Alternatively, the rise in prices of imported goods, price of local goods unchanged means that local consumers will be drawn to its relatively cheaper products. This enables greater output and hence economies of scale, enabling it to lower its unit cost of production in the long run.

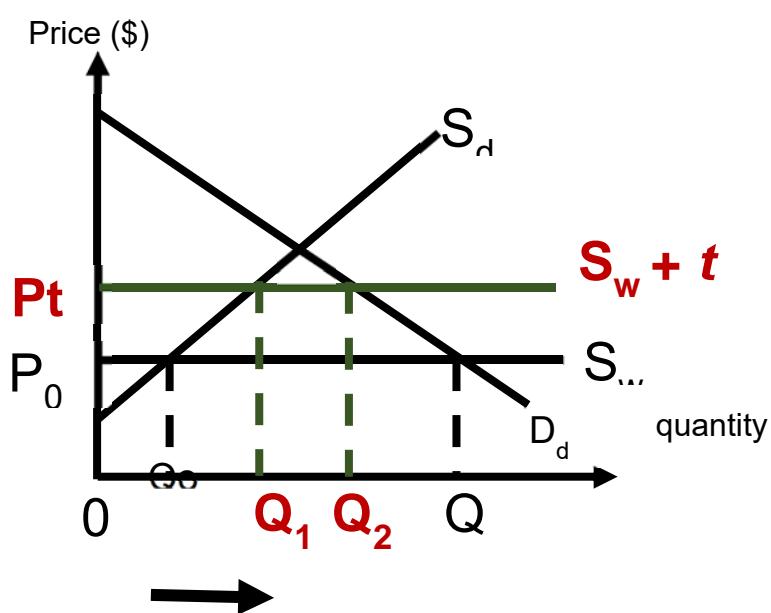


Diagram is not critical. If properly used, it enhances rigour & answer.
Candidates May use **alternative basic** illustration of a shift in demand for the locally produced good that in competition with the imported substitute

However, it should remove such protectionist measures after a period of time as firms will become complacent if these protective barriers remain permanently.

Hence, subject to protectionist measures being temporary and for companies with potential comparative advantage, such measures are justified and allowed under World Trade Organisation rules. The case study of the Malaysian car company Proton Saga is a case in point where Malaysia wanted to develop their own national car and imposed tariffs on imported cars from Japan and China for a period.

P2: Protectionism is also justified in cases where there is unfair competition such as Dumping

E Dumping occurs when a good is sold in foreign mks at a Price below the marginal cost (MC) of production. This gives the exporter an unfair advantage that is not based on comparative advantage, the basis on which free trade is mutually beneficial. Hence countries are justified to *impose an import tariff to equalise competition*.

It can be further argued that this could be a strategy by foreign producer to lower price temporarily at below cost in domestic mkt to oust out domestic producers with the aim of gaining monopoly position. This then allows them to increase price to the detriment of consumers as they are exploited with their consumer surplus transferred to the foreign producer. This reduces the welfare of consumers.

It is for this reason the International Trade Watchdog, World Trade Organisation disciplines dumping actions and it is often called the “Anti-Dumping Agreement” under its world trade ruling. The agreement allows governments to act against dumping where there is genuine injury to the competing domestic industry. In order to do that the government has to be able to show that dumping is taking place, calculate the extent of dumping (how much lower the export price is compared to the exporter’s home market price), and show that the dumping is causing injury or threatening to do so.

Hence to justify anti-dumping tariff, countries must be able to prove that the exporter has indeed sold below its marginal cost of production before they can raise protective walls as it may not be a case of predatory dumping but sporadic dumping to clear stock. Some examples include China’s tariffs on American cars, accusing it of dumping into its domestic market at a time when China was trying to protect its own car market and dumping could cause substantial damage to its attempt to grow its own car industry. American tariff has imposed on China solar panels and India’s tariffs on imported steel on various countries such as China and Japan.

P3: In cases where restructuring is needed when local firm have lost their comparative advantage, protectionist measures may be used to enable more economic stability as the country goes through the process of restructuring, eg from low end to high end manufacturing or services.

E This is because if firms have lost their comparative advantage, it would mean they have to *shut down* if their total revenue cannot cover cost of production. This forces firms to retrench workers and hence cause massive **unemployment** especially if it constitutes a big sector of the economy. Hence **protectionism prevents significant job loss** & unemployment as the measures give economy time to shift resources from sunset to sunrise industries and low for training and retraining of workers appropriately

Conclusion

Hence, despite the warranted fears that protectionism may be bad news for both a national and international economy, protective barriers to support local industry is justified in cases of

need to develop an infant industry with CA for the short run, to help in its restructuring process due to loss of comparative advantage and to counter unfair trade practises such as dumping practices of its trading partners.

Level 3 8-10	The 3 key reasons well explained & justified based on clear assumptions & qualifications. Good use of examples. May or may not have used a graphical illustration
Level 2 5-7	Explained well at least 2 reasons. Explain the need for assumptions and qualifications for justifications. May have included a diagram on impact of protectionism on local industry in terms of output, economies of scale and employment.
Level 1-4	Splattering of points concerning employment and other listing. Descriptive narration.

- (b) Discuss how a country like Singapore should increase its competitiveness in a globalised world which might become increasingly protectionist. [15]

INTRODUCTION

Set context:

Globalisation is the increasing integration of countries arising from freer mobility of goods, services, resources and technology. This has propelled the economic growth of many national economies especially in the last few decades with prospects of bigger markets for all. Protectionist moves will raise prices of exports and block economic projects and affect Singapore's ability to compete in the world market.

Concept of competitiveness and how to bring it about/direction of answer:

The current Global Competitiveness Index measures the set of institutions, policies, and factors that sustain economic growth and places Singapore at 34th place. In this light, Singapore should increase its competitiveness by taking due consideration some of these factors to continue to penetrate the world market based on cost and quality of its goods and services.

BODY: (any 3 measures cohesively presented)

P1: If protective tariff barriers are increasingly imposed by trading partners, Singapore will need to find ways to reduce its actual cost to still enable lower prices to compete in the international market.

E This is because a tariff on its exports would instantly increases the price of its exports to the country. To counter this and still be able to compete successfully, Singapore would need to continue to maintain price competitiveness in these markets. One measure Singapore can continue to use is her **exchange rate policy** to manage a relatively strong sing dollar. This is because she is a resource scarce country reliant on imported raw materials where it constitutes 60% of the total cost of production. Hence, a strong sing dollar will reduce the price of imported raw materials in domestic currency. This means cheaper cost of production and can help alleviate the price of the final goods and services she produced like pharmaceutical and petrochemical products. Examples include imported natural gas to power electricity and machinery, oil for transportation services provided by airport and ports, and basic intermediate primary products like wheat, poultry and seafood or manufacture of food products for exports.

This will continue to manage the **price competitiveness** of its exports as long as the rise in price of exports due to a strong exchange is mitigated sufficiently by the cost savings from a lower cost of production.

Antithesis: However this measure might be seen to be an artificial competitiveness as it does not look at the *actual* cost of production itself.

P2: Hence, the limitation of this measure means that Singapore need to also look into reducing the *actual* cost of production itself. As such, she should also continue to calibrate her supply side polices to decrease unit cost of production.

Given that Singapore's only resource is its people, she should seek to increase the quantity and quality and mobility of factor so production and to reward and encourage local enterprise. Rapid technological and disruptive changes taking place in the *global* marketplace will make workplace old skills irrelevant. Hence measures must be in place in Singapore to reskill and focus on highly specialised areas such as medical technology and data analytics.¹ With higher education and skills training, the labour force becomes more productive, versatile and adaptable. Therefore it should continue to review its Continuing Education and Training (CET) Masterplan where since 2014, CET has been enhanced to include online training courses that adult learners can access at their own pace, in their own time. Such platform allows courses to be more accessible and gives more flexibility to learners juggling between work and study. In addition, the 2015 **SkillsFuture** attempts to develop an integrated system of education, training and career progression for Singaporeans, promote industry support for workers to advance based on skills, and to foster a culture of lifelong learning. This will increase Singapore Government funding to an average of over \$1 billion per year from now to 2020.²

Discuss/strengths: (1 thesis, 1 “antithesis” well analysed) Training and Education improves labour productivity and mobility and must rightly comprise formal and informal education for the labour force. Improvement in the quality of the workforce can raise the productivity level of the labour force, enable more to be produced at a lower unit costs of production. This increases its global competitiveness and at the same time mitigating the rise in price due to tariff by certain trading partners.

It should also continue to monitor its wage policy through its tripartite system of engaging employers and trade unions and the National Wage Council such that wage rise will not outstrip productivity rise. This will curb any undesirable rise in unit cost of production that could reduce its ability to compete especially in markets where tariffs worsens the competition.

Although it has been a concern that workers and firms would not be receptive to such programmes, recent data suggest that there has been a good take up rate as more than 126,000 Singaporeans have used the SkillsFuture Credit to up-skill or re-skill themselves by end December 2016. As this is a critical expenditure to increase its competitiveness to ensure productivity, lower cost and quality products, it should remain a key area that Singapore must pursue to ensure sustainable economic growth.

This measure accompanied with an industry transformation map to identify key areas of growth with which Singapore can develop new comparative advantage will also help her to break into areas that are not likely to be protectionist as these countries are unable yet to produce them.

It also increase our competitiveness in terms of attracting foreign direct investment into the country as a productive workforce enables foreign firms to produce at lower cost and in turn compete in the international market.

P3: In addition, in view of increasing protectionism, Singapore should continue to sign free trade agreements (FTAs). FTAs can expand the international economic space for Singapore-based companies with the reduction of trade barriers. Singapore has successfully ratified the CETrans-Pacific Partnership (TPP). Asia-Pacific Economic Cooperation (APEC) members like Australia, Brunei, Chile and Vietnam. These countries collectively represent about 26% of global GDP and 17% of world trade. In addition, she should remain an active participant in regional integration initiatives like the Association of Southeast Asian Nations (ASEAN) and the AEC aims to achieve a single market and production base, with free flow of goods, services and investments by 2015.

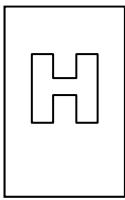
Strength: This is because there remains big growth areas and new areas of cooperation such as Africa, Brazil, Russia and India. These emerging economies would want the much needed trade for growth and the likelihood of them imposing protectionist measures is minimal.

In this way, bigger markets allow our local companies to expand and enjoy **economies of scale** of production such as technical, marketing and financial economies of scale. This reduces the **average cost of production** and enable firms to charge a lower price to continue to compete successively in new and penetrate even protected markets. Hence, Singapore should look into regional cooperation if the big players from the West and China threatens to be become increasingly protectionist.

Conclusion

Personal opinion: It serves Singapore well to recognize the importance of adapting to both the opportunities presented by the global economy and the possibilities of countries implementing protectionist moves to protect their own national economy. Singapore must take both a short and long term perspective in dealing with competitiveness, whether threatened by protectionism or otherwise. In essence, she should will continue to pursue an appropriate exchange rate policy and relevant supply side policy to create a globalized, entrepreneurial and diversified economy that ensures sustainable growth. Singapore should continue to pursue regional trade agreements to keep economy open.

Level 3 8-10	Thorough explanation of at least 3 measures and impact on cost, price and non price. Thesis and anti-thesis is evident
Level 2 5-7	Sufficient explanation of at least 2 relevant measures to increase competitiveness in terms of price and non price appeal. Impact of context of protectionism (and globalisation) in terms of raising prices is evident Anti-thesis is also attempted.
Level 1 1-4	Smattering of points. Lack of understanding of term “competitiveness”
Ev3	At least 2 criteria well evaluated Eg: Need to keep own economy open to FDI Need to look for new markets as viable solution. Recognised need for appropriate supply side measures and a policy mix of eg, appropriate exchange rate, free trade agreements
Ev2	Criteria is supported with analysis Eg: human resources as its key resource Need to gain new comparative advantage with government policies. Recognised need for supply side measures.
Ev1	Listing of criteria.



TEMASEK JUNIOR COLLEGE
Preliminary Examinations 2018
General Certificate of Education Advanced Level
Higher 2

ECONOMICS

Paper 1 Case Study

9757/01

Friday 24 August 2018
2 hours 15 minutes

Additional Materials: Answer Paper, Cover Page

READ THESE INSTRUCTIONS FIRST

Do not turn over until you are told to do so.

Write your name and CG number on all the work you hand in.

Write in dark blue or black pen.

You may use an HB pencil for any diagrams or graphs.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** questions.

Begin each question on a separate sheet of answer paper.

At the end of the examination, fasten your work for each question separately.

Attach the cover page to your work for Question 1.

The number of marks is given in brackets [] at the end of each question or part question.

This document consists of 8 printed pages.



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Economics

[Turn Over

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Answer **all** questions.

Question 1: Tiny Plastic, Big Problem?

Figure 1: Global plastic production from 2006 to 2015 (in million metric tons)

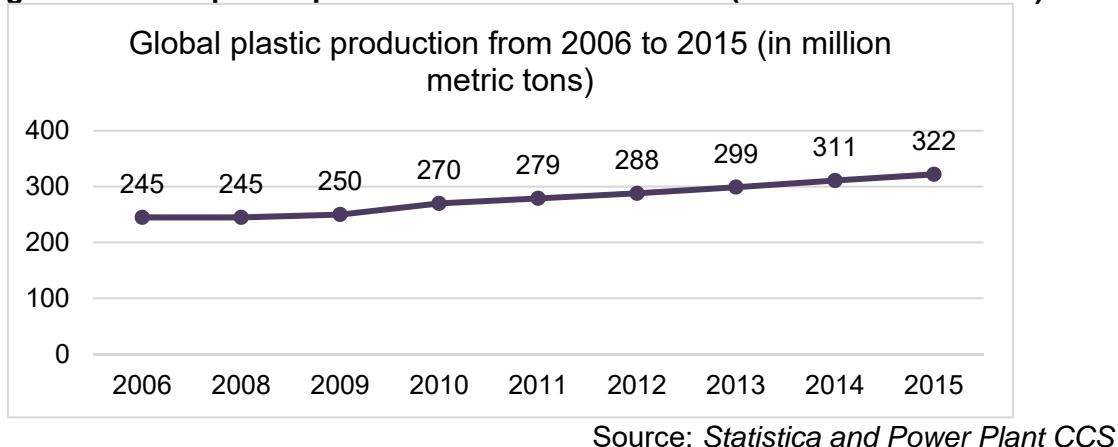
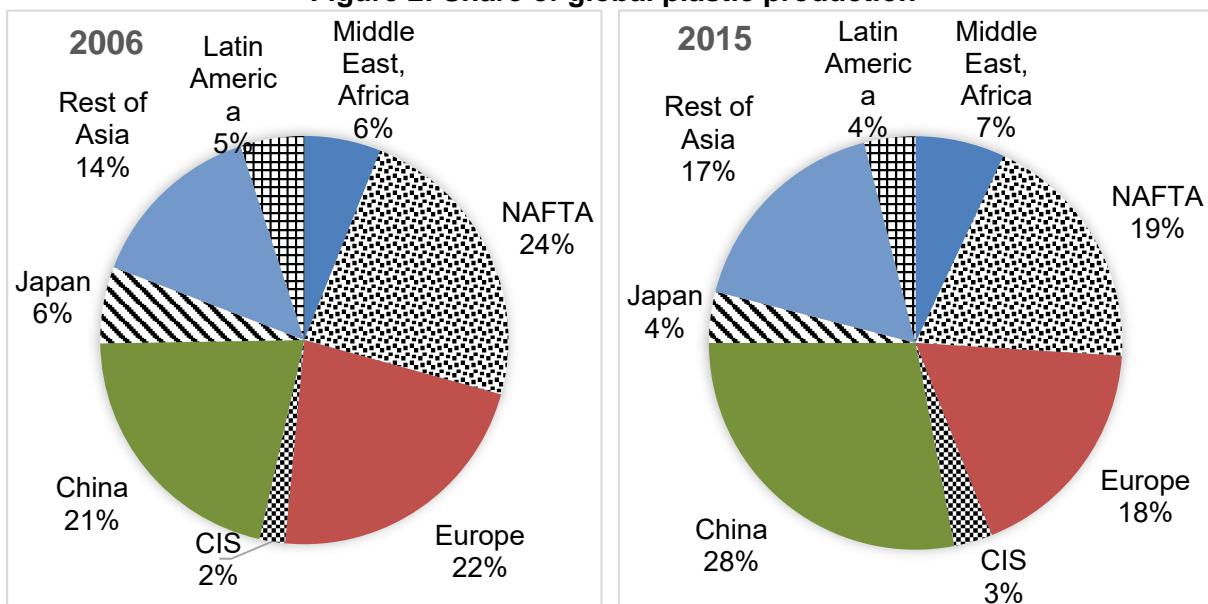


Figure 2: Share of global plastic production



Source: PlasticsEurope Market Research Group (PEMRG)

Extract 1: Global plastic production

The growth of the plastics industry goes hand-in-hand with economic development. The more an economy grows, the more plastic is used in construction, infrastructural development, electrical and electronic industries, and transport. Single-use plastic packaging – the nemesis of environmental activists – is also in strong demand in developing countries. Even in Europe, where anti-plastics campaigning has been especially vigorous, packaging accounts for 40 per cent of consumption. But the world's leading producer of plastic is China. Today it holds a whopping 29 per cent of the market share, up from 15 per cent just a decade ago. European, US and Japanese plastic manufacturers have meanwhile seen their market share shrink.

Source: Business Times, 9 July 2018

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Extract 2: Global plastic crisis

The impacts of global plastic use have reached an alarming level. Based on the latest data, 9 billion metric tons of plastics have been produced since the 1950s, creating 7 billion tons of waste. Plastic waste not only damages the environment and threatens animal life but also harms human populations. One of the most dangerous elements of plastic waste is tiny pieces of debris known as microplastics, which are damaging the environment. These tiny particles can end up in people's stomachs via drinking water or eating seafood, which could present health risks.

Various attempts to minimise plastic use have been introduced. One involves developing plastic materials, known as biodegradable plastics or bioplastics, that decompose naturally in the environment. The materials commonly used to produce bioplastics are corn, sugarcane, vegetable oil and starch. However, using these ingredients for plastics has raised some concerns. First, the production of bioplastics requires a huge investment in the land, fertilisers and chemicals. Second, the use of these plants for plastics will trigger a competition between plants for food versus plants for plastics, which will likely lead to food price hikes and a food crisis.

Source: *The Jakarta Post*, 6 May 2018

Extract 3: The Future of Food

The urban population is exploding around the globe, and furthermore, issues like wasted food, poor working conditions, polluted ecosystems, mistreated animals, and greenhouse gases are just some of the concerns that people have about our current supply chains.

Fortunately, food systems are evolving – and the future of food depends on technologies that enable us to get more food out of fewer resources. One such example is the development of automated vertical farms. By stacking farms on top of another and using automation, vertical farms can produce 100x more effectively per acre than conventional agricultural techniques.

However, the problem for vertical farms is still cost – and it is not clear when they will be viable on a commercial basis.

Source: *Visual Capitalist*, 6 September 2017

Extract 4: Firms' response to the plastic crisis

Coca-Cola Co. Chief Executive Officer James Quincey is kicking off a recycling spree, as part of its efforts to woo customers by improving its image as a socially responsible organisation. The soft-drink company, which operates in more than 200 countries, is setting the goal of recycling one bottle or can for each one it sells by 2030. If successful, the plan could lead to cost savings because Coke could provide a growing amount of its own packaging material.

Source: *The Straits Times*, 20 January 2018

Extract 5: Plastic Industry in India

The Indian plastics industry made a promising beginning in 1957 with the production of polystyrene. Thereafter, significant progress has been made, and the industry has grown and diversified rapidly. The industry is dominated by conventional plastics production and hosts more than 2,000 exporters. It employs about 4 million people and comprises more than 30,000 processing units, 85-90 percent of which are small and medium-sized enterprises. The Indian plastics industry is supported by a large number of polymer producers, and plastic process machinery and mould manufacturers in the country. Among the industry's major strengths is the availability of raw materials in the country. These raw materials, including polypropylene, high-density polyethylene, and PVC, are manufactured domestically.

Source: *India Brand Equity Foundation*, July 2018

Extract 6: Bio-plastic industry in UK

Presently in the UK, supportive regulation and legislation has encouraged more environmentally sustainable business practices and consumer behaviour. For example, the government's drive towards achieving a 'zero waste' economy, through reducing waste and increasing recycling, has fostered an increased consciousness of resource efficiency. This awareness has indirectly promoted the use of bio-plastic products.

Due to their biodegradability in the right applications, bio-plastics can help divert organic waste from disposal so avoiding the additional costs of Landfill Tax. This can act as an incentive to businesses and municipalities to use bio-plastics, instead of conventional plastics. In addition, initiatives to reduce food and packaging waste have fostered research and innovation into more carbon neutral forms of plastics. Already, advances in the technical properties and functionality of bio-plastics have increased their attractiveness and the extent to which they can substitute for conventional plastics.

Based on the current annual domestic demand for bio-plastic products of 4,000 tonnes, it is estimated that in 2014 the gross output impact of the bio-plastics sector amounted to £103.4 million. This supports roughly 1,000 jobs and contributed £43.4 million of direct output to the UK economy.

Source: *Bio-based and Biodegradable Industries Association (BBIA)*, October 2015

Questions

- (a) (i) Explain whether the change in Europe's share of global plastic production meant that Europe's plastic production fell from 2006 to 2015. [2]
- (ii) Has the market for plastic production become more or less competitive from 2006 to 2015? Explain your answer. [2]
- (b) Using an example from Extract 2, explain the concepts of scarcity and opportunity cost to farmers. [3]
- (c) Explain how recycling PET bottles could benefit the Coca-Cola Company. [5]
- (d) Discuss whether the use of agricultural commodities, such as corn, to produce bioplastics could lead to a "food crisis" (Extract 2). [8]
- (e) Using the information provided, evaluate the view that the Indian government should develop the biodegradable plastic industry like the UK. [10]

[Total: 30]

Question 2: Donald Trump and the US economy

Table 1: US Macroeconomic Indicators

	2013	2014	2015	2016	2017
GDP (USD per capita)	52 726	54 651	56 420	57 591	59 535
Change in Consumer Price Index (%)	1.46	1.62	0.12	1.26	2.13
Unemployment (%)	7.38	6.17	5.29	4.87	4.35
GINI Coefficient	0.396	0.394	0.390	0.391	-
Current Account Balance (million USD)	- 348 801	- 365 199	- 407 765	- 432 874	- 449 141

Source: *OECD Data*

Extract 7: Donald Trump proposes law to cut immigration numbers by half in 10 years

Donald Trump announced plans for new immigration laws on Wednesday that would cut the total number of immigrants admitted to the US by half over a decade and prioritize those who can speak English or are well educated.

The proposed legislation, unveiled at the White House, would also cap the number of refugees admitted to the US every year at 50,000, and eliminate the diversity visa lottery, which currently allocates 50,000 visas a year to residents of countries that do not currently send significant numbers of migrants to the US.

An estimate provided by the office of one of the bill's sponsors, the Republican senator Tom Cotton, stated that if passed, the Reforming American Immigration for Strong Employment (Raise) Act would reduce the number of immigrants admitted to the US by 41% in its first year and by 50% over a 10-year-period.

Source: *The Guardian*, 02 Aug 2017

Extract 8: US unemployment claims slide by 14,000 to 246,000

Fewer Americans applied for unemployment benefits last week, another sign that US workers are enjoying job security.

The Labor Department said Thursday that claims for jobless aid fell by 14,000 last week to a seasonally adjusted 246,000. The less-volatile four-week average rose by 2,250 to 248,000. Overall, 2.06 million Americans are receiving unemployment benefits, down more than 8 percent from a year ago.

Jobless claims are a proxy for layoffs. The low levels suggest that employers feel they need to hang on to their workers in a tight labor market. Ian Shepherdson, chief economist at Pantheon Macroeconomics, says "companies fear that they won't be able to replace people who they let go... This isn't going to change anytime soon, so we expect claims to remain close to their current level." Weekly unemployment claims have now come in below 300,000 for 100 consecutive weeks, the longest streak since 1970.

Source: *Los Angeles Times*, 02 February 2017

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Extract 9: Protectionism and trade disputes threaten world growth

A new wave of protectionism and trade tensions risks denting global growth, stoking inflation and harming living standards, the west's leading economic thinktank has warned in its first in-depth forecasts since Donald Trump won the US election on an anti-globalisation platform.

The Paris-based Organisation for Economic Co-operation and Development (OECD) said it was optimistic that expected spending measures and tax cuts under the new US administration would boost growth there and in other countries. But it said global trade growth was already "exceptionally weak" and jobs would suffer if politicians rolled back the clock on trade liberalisation.

"The global loss in GDP would be about 1.3%, but for the countries that impose the restriction, in other words, the US, China and the EU, the loss in their GDP would be closer to 2%," said Mann. "The countries that impose the restrictions damage themselves more." The report noted that more than 25% of jobs depend on foreign demand in many of the 35 countries in the OECD group.

"This economic outlook suggests that protectionism and inevitable trade retaliation would offset much of the effects of the fiscal initiatives on domestic and global growth, raise prices, harm living standards, and leave countries in a worsened fiscal position.

"Trade protectionism shelters some jobs, but worsens prospects and lowers well-being for many others," the report said.

Source: *The Guardian*, 28 Nov 2016

Extract 10: China retaliates with tariffs after US begins trade war

A long-threatened trade war between the US and China has got under way after the world's two largest economies imposed tariffs on each other. The US implemented tariffs on \$34bn in Chinese goods, to which Beijing responded with levies on a similar quantity of US imports.

Minutes after the US tariffs went into effect at 12.01am on Friday US time, a spokesperson for China's ministry of commerce said, "China promised not to fire the first shot, but in order to safeguard the country's core interests as well as that of the people, it is forced to fight back," according to Xinhua. The ministry stopped short of saying China had implemented its retaliatory duties.

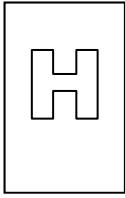
Later on Friday, a spokesman for the ministry of foreign affairs said after the US tariffs kicked in, Chinese tariffs on US goods had immediately gone into effect.

Source: *The Guardian*, 06 Aug 2018

Questions

- (a) (i) Summarise the trend in the US Current Account Balance from 2013 to 2017. [2]
- (ii) Using a diagram, explain how the above trend affects the external value of the USD. [4]
- (b) Using a Production Possibilities Curve, explain how the proposed immigration law will impact the US economy. [3]
- (c) Using Extract 8, explain how automatic stabilisers work. [3]
- (d) Comment on whether the data provided is sufficient to conclude that there has been inclusive and sustainable growth in the US economy. [8]
- (e) Discuss the factors that governments should consider when enacting protectionist measures like tariffs. [10]

[Total: 30]



ECONOMICS

9757/02

Paper 2 Essays

Monday 10 September 2018
2 hours 15 minutes

Additional Materials: Answer Paper, Cover Page

READ THESE INSTRUCTIONS FIRST

Do not turn over until you are told to do so.

Write your name and CG number on all the work you hand in.

Write in dark blue or black pen.

You may use an HB pencil for any diagrams or graphs.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer three questions in total, of which **one** must be from Section A, **one** from Section B, and one from **either** Section A or Section B.

Begin each question on a separate sheet of answer paper.

At the end of the examination, fasten your work for each question separately.

Attach the cover page to your work for your **first** question.

The number of marks is given in brackets [] at the end of each question or part question.

This document consists of **3** printed pages and **1** blank page.



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Economics

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Answer **three** questions in total.

Section A

One or two of your three chosen questions must be from this section.

- 1 Amidst a growing economy and the increased use of personal mobility devices, the food delivery industry has changed the way food reaches consumers. If restaurants and hawkers choose to deliver their food to the doorsteps of customers, they have to pay a small commission fee.

Discuss the impact of the above events on the market for food delivery and its associated markets. [25]

- 2 Under the 2013 Drug Price Control Order, India has adopted price controls to cap the prices of over 300 pharmaceutical drugs in the market.

(a) Explain the considerations of governments when imposing price controls in different markets. [10]

(b) Assess the view that the main use of government subsidies is to achieve an efficient allocation of resources in markets. [15]

- 3 The hotel industry in many countries is extremely diversified, ranging from fuss-free budget hotels that serve guests such as backpackers, to luxury hotels that include a wide amenity of services for guests such as business travellers.

(a) Explain the different economies of scale present in the hotel industry. [10]

(b) Assess whether profit maximisation should always be the goal of different hotels. [15]

Section B

One or two of your three chosen questions must be from this section.

- 4** Assess the extent to which trade-offs between different macroeconomic objectives is the main reason why governments pursue a mix of macroeconomic policies. [25]
- 5** The Singapore government aims to achieve a low rate of inflation and a favourable balance of payments position. To achieve a low rate of inflation, the Singapore government has implemented macroprudential policies such as limitations on the amount of loans available for households to purchase vehicles and properties.
- (a) Explain the consequences of failing to achieve the above aims. [10]
- (b) Discuss whether the use of macroprudential policies is the most effective method to achieve a low rate of inflation in Singapore. [15]
- 6** The Singapore-Australia Free Trade Agreement (SAFTA) is a comprehensive agreement that covers tariff-free access for goods, enhanced access to each other's services sectors, and greater facilitation for investments.

Source: Ministry of Trade and Industry Singapore

- (a) Explain how globalisation influences Singapore's pattern of trade. [10]
- (b) Assess the view that the signing of the SAFTA allows Singapore to fulfil only its macroeconomic aims. [15]

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H2 CSQ1 Suggested Answers

Question 1: Tiny Plastic, Big Problem?

(a) (i) Explain whether the change in Europe's share of global plastic production meant that Europe's plastic production fell from 2006 to 2015. [2]

- Even though Europe's share of global plastic production fell [1], Europe produced more plastic in 2006 than in 2015 as the global production increased in the same period. [1]
- *Mathematically, the amount of plastic produced by Europe can be calculated using the data in Figure 1 and Figure 2:*
 - 2006: 22% of 245 million metric tons = 53.9 million metric tons
 - 2015: 18% of 322 million metric tons = 57.96 million metric tons

Marker's Comments:

- Many students recognised Europe's share is determined by:
 - Absolute amount of plastic produced in Europe
 - Total global plastic production
- Some students failed to recognise that the data presented in Figures 1 and 2 could be used to determine the absolute amount of plastic produced in Europe.
 - Some students presented all possible scenarios (i.e. it could have remained constant, it could have increased).
 - A few students erroneously presented a demand and supply analysis of the situation in Europe to determine the possible change in Europe's production during this period.

(a) (ii) Has the market for plastic production become more or less competitive from 2006 to 2015? Explain your answer. [2]

- Using three-country/region concentration ratio: The market for plastic production has become more competitive [1m] as the top three countries/regions' share of plastic production fell from 67% in 2006 to 65% in 2015. [1m]
OR
- Using four-country/region concentration ratio: The market for plastic production has become less competitive [1m] as the top four countries/regions' share of plastic production increased from 81% in 2006 to 82% in 2015. [1m]

Marker's Comments:

- Many students failed to recognise the concept of "concentration ratio" is relevant when determining the degree of competition in an oligopolistic market.
 - This question allowed for two different answers, depending on whether the three- or four-country/region concentration ratio is used. As such, it is important to indicate clearly which one is being used to determine the answer. Failing to do so would make the answer incomplete/inaccurate.
- Some students inaccurately identified the market to be monopolistic because of the dominance of one country/region (NAFTA in 2006 and China in 2015).
 - These students failed to show clear understanding of the concept of monopoly, which requires one firm to dominate the market as the single large firm (i.e. have more than 50% market share).

- A handful of students considered the change from 67% to 65% (for the three-country/region concentration ratio) or 81% to 82% (for the four-country/region concentration ratio) as negligible, and indicated that there was “no change” in the degree of competition in the market.
 - Such a response failed to address the requirements of the question, which clearly expected students to choose between “more” or “less” competitive.

(b) Using an example from Extract 2, explain the concepts of scarcity and opportunity cost to farmers.

[1m for precise definition of scarcity]

- Scarcity is defined as the situation where there is **limited resources** and **unlimited wants**.

[1m for explaining the choice to be made given the limited resource and competing uses of the resource]

- As farmers have **limited “land” space**, they have to **make a choice** between the use of land to produce crops for food or to produce crops for making bioplastics.

OR

- The plants grown by farmers such as **corn and sugarcane are limited** and farmers have to **make a choice** between using the plants to produce food or for the production of bioplastics.

[1m for the correct application of opportunity cost to farmers]

- When farmers chose to produce more crops to make bioplastics, they have to incur an opportunity cost and forgo the value of the next best option, which is the potential **revenue/profit** earned from producing more crops for food.

Marker's comments:

- Quite a number of scripts had a misconception between the concepts of scarcity and shortage. The following table shows the differences between the two concepts:

Scarcity	Shortage
<ul style="list-style-type: none"> • Arises because of limited resources (factors of production) relative to unlimited human wants 	<ul style="list-style-type: none"> • Arises because quantity demanded is greater than quantity supplied at the equilibrium price
<ul style="list-style-type: none"> • Cannot be resolved by the price mechanism, may be alleviated by technology advancement and/or an increase in the quality and/or quality of resources 	<ul style="list-style-type: none"> • Can be eliminated through the price mechanism
<ul style="list-style-type: none"> • Necessitates choice and incurs an opportunity cost when a choice is made. 	<ul style="list-style-type: none"> • In the free market, a shortage will lead to a higher price which will reduce quantity demanded and increase quantity supplied until a new equilibrium is reached

- Some students confused the concepts of competitive demand and competitive supply. When two goods are in competitive demand, they are substitutes. Bioplastics and food production are in **competitive supply** as they use the same factor inputs (land, chemicals, fertilisers, plants).
- Definitions of scarcity and opportunity costs were imprecise. The importance of precise definitions has been emphasised thoroughly and students are unwise to not heed such advice in their preparation for examinations.
- The application of the concept of opportunity cost to farmers was relatively weak. The majority of students either did not identify the “value” of the forgone next best alternative, or did not explain the opportunity cost to “farmers”, choosing to talk about food prices hikes and a food crisis which did not address the question.
- There were students who wasted time by drawing and explaining a PPC when it was not required at all.

(c) Explain how recycling bottles could benefit the Coca-Cola Company. [5]

- Recycling bottles could lead to “cost savings” for Coca-Cola Company, hence allowing it to benefit from lower cost of production. [1]
- Recycling bottles could also help the company “woo customers by improving its image” and this could increase the demand for Coca-Cola’s products due to the favourable change in taste and preferences towards Coca-Cola’s products. This would increase the price and quantity of those products and hence increase its total revenue. [3]
- With cost savings and increased total revenue, Coca-Cola company could benefit from an increase in profits. [1]

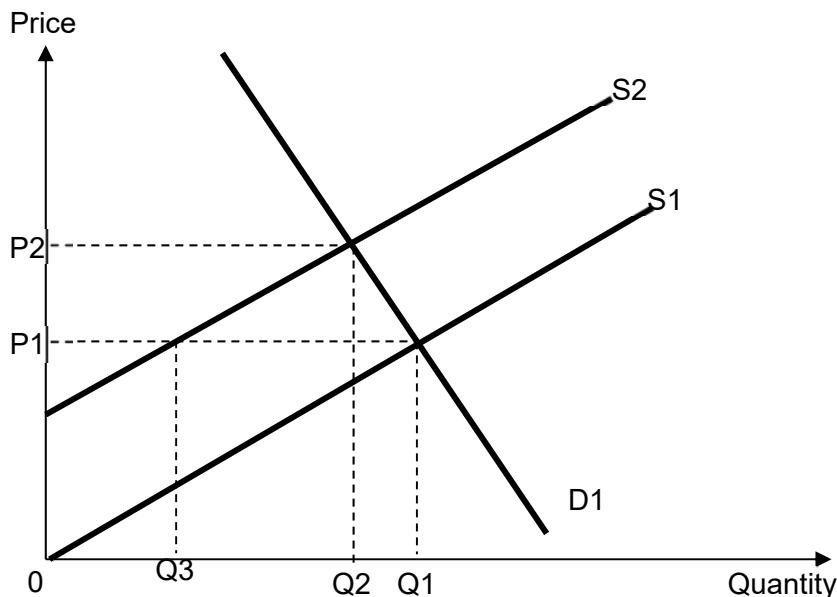
Marker’s comments:

- Many students did not get full marks for this question as their explanations are incomplete.
 - Many students did not explain the increase in total revenue for the firm but jump straight into stating the increase in profits
 - For students who did explain the increase in total revenue, many of them did not explain that the increase in revenue was due to the increase in price **and** quantity due to the increase in demand. Many students wrongly state that increase in price or quantity alone would increase total revenue.
 - Some students wrongly stated that revenue is equals to profit which is a conceptual error.
 - A diagram is not required for this question. However, if a diagram was to be used for explanation, students should draw a firm diagram since question ask about benefit for a firm. Many students draw a market diagram, which is inappropriate for this question.

(d) Discuss whether the use of agricultural commodities, such as corn, to produce bioplastics could lead to a “food crisis” (Extract 2). [8]

- **Introduction**
 - Agricultural commodities such as corn could be used to produce bioplastics and this could then lead to a “food crisis” where there could be a price hike for food. However, the price of food could be affected by other factors and the price of food may not increase that significantly.
- **Thesis: The use of agricultural commodities, such as corn, to produce bioplastics could lead to a “food crisis”.**
 - Explain a rise in price of agricultural commodities
 - Rise in demand for agricultural commodities to produce bioplastics would lead to an increase in price of those commodities.
 - Link to a rise in price for food
 - Increase price of the commodities, which could be used to produce food products could increase the cost of production of food which leads to a fall in supply of food. Hence there is a shortage of Q3Q1 units of food at the initial price level, which exerts an upward pressure on price of food.

Figure 1: Market for food



- As there is a high degree of necessity for food, demand for food is price inelastic. Hence the fall in supply of food with a steep demand curve results in sharp increase in price of food from P1 to P2, as shown in figure 1, thus leading to a “food crisis”.
- **Anti-thesis: The use of agricultural commodities, such as corn, to produce bioplastics may not lead to a “food crisis”.**
 - There could be increase in supply of food over time due to technological advancements in food production such as the “development of automated vertical farms” mentioned in extract 3, which could help lower food prices.
 - There could be new innovations to produce bioplastics such that agricultural commodities are not needed as inputs and there would be reduction in

competition for agricultural commodities between food and bioplastics, thus less likely for food price hike.

- **Evaluative Conclusion**

- **[Stand + Time frame]** The use of agricultural commodities, such as corn, to produce bioplastics could lead to a “food crisis” in the short run. This is especially when it is more unlikely to find alternative inputs for the production of bio-plastics within a shorter period of time. Moreover, the development of vertical farms takes time and is a costly project, hence it is unlikely to increase food production immediately.
 - However, in the long run, there could be advancements in technology that lowers the cost of building vertical farms, which could then increase food production and lower food prices.
 - In addition, with more research and development projects that focus on bio-plastics production, alternative inputs for production of bio-plastics could be developed and there would be less competition for agricultural commodities and hence a food price hike is less likely to occur.

Mark Scheme

Level	Knowledge, Application/Understanding, and Analysis	Marks
L2	For a well-developed and balanced answer that <ul style="list-style-type: none"> • discusses how the use of agricultural commodities to produce bioplastics may and may not lead to a “food crisis”. • is well-supported by case materials 	4 – 6
L1	For an underdeveloped answer that <ul style="list-style-type: none"> • only discusses how the use of agricultural commodities to produce bioplastics may <u>OR</u> may not lead to a “food crisis”. i.e one-sided answer OR <ul style="list-style-type: none"> • discusses how the use of agricultural commodities to produce bioplastics may <u>AND</u> may not lead to a “food crisis” without <ul style="list-style-type: none"> ○ rigorous use of economics concepts and/or ○ reference to case context 	1 – 3
E	Provides a clear evaluative conclusion/judgement on whether the use of agricultural commodities to produce bioplastics could lead to a “food crisis”, taking into account the case material and context.	1 – 2

Marker's comments:

- Many students did not realise that the market for agricultural commodities and the market for food were different markets, and wrongly focused on the market for agricultural market only. In the context of this case study, the agricultural commodities are used as an input for the production of food.
- Some students took an alternative approach to explain that the increase in price of agricultural commodities could be significant as the supply of agricultural commodities is

price inelastic. This would result in a large increase in cost of production of food and hence a large fall in its supply, causing a price hike. This approach was accepted as well.

- Similar to part (b), many students were confused between the concepts of competitive demand and competitive supply. Bioplastics and food are in **competitive supply** as they **use the same factor inputs** (land, chemicals, fertilisers, plants).
- For evaluative conclusion, students should note that it is important to justify their stand well. Most student used time frame as a criterion for their evaluation. The better evaluative conclusion explained why the food price hike was less likely to occur in the long run as compared to the short run.
 - The weaker evaluations usually provided 2-3 points of evaluative angles but were not all well-justified. Students should note that the quality of justification matters, and it is not about the number of points that they provide.

(e) Using the information provided, evaluate the view that the Indian government should develop the biodegradable plastic industry like the UK. [10]

Question Interpretation

Command word/phrase	<i>Evaluate</i>	To analyse the costs and benefits on India's economy should the Indian government develop the biodegradable plastic industry like the UK and make a judgement on whether the development should be made
Content	<i>View that...should develop the biodegradable industry like the UK</i>	To consider the factors (e.g. benefits, costs, unintended consequences, constraints) that will influence the Indian government's decision
Context	<i>Indian government</i>	Specific to India's economy

Students are required to consider the factors (e.g. benefits, costs, unintended consequences) that will influence the desirability of the Indian government's decision to develop the biodegradable plastic industry like the UK, before forming a well-substantiated judgement on whether the development should go ahead.

Introduction

- At present, the Indian economy has a developed conventional plastics industry but the negative externalities generated poses health problems for its citizens.
- Should the Indian government develop the biodegradable plastic industry like the UK, it may enjoy increased output and sustainable growth, but could incur costs like structural unemployment as well.

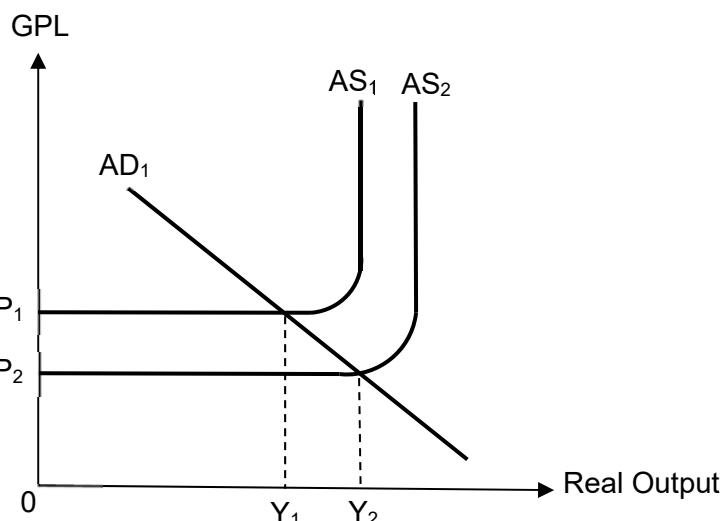
Body

Thesis – explain how the development of biodegradable plastic industry could bring benefits to India's economy.

- The Indian government may want to develop the biodegradable plastic industry to achieve sustainable growth, a rate of growth that can be maintained without causing excessive environmental damage.

- Since conventional and biodegradable plastics are in competitive demand (substitutes), developing biodegradable plastics could result in a reduction in the consumption of conventional plastics. This will reduce the amount of “plastic waste” and the negative externalities, the negative spillover effects on third parties, such as health problems from drinking water or eating seafood contaminated with “microplastics.” When consumption of conventional plastics can be reduced to the socially optimal level, the deadweight loss is eliminated and there will be greater allocative “resource efficiency.”
- The development of biodegradable plastic would foster research and development (R&D), which has the potential to increase the quality of capital. Furthermore, firms who use bioplastics in their production can avoid “the additional costs of Landfill tax” and enjoy lower cost of production. The increase in quality of capital and lower unit cost of production will increase the aggregate supply, shifting the AS curve from AS_1 to AS_2 . Real output increases from Y_1 to Y_2 , and there is sustained growth. Hence, India could potentially enjoy the increased output and employment opportunities – the “1,000 jobs and £43.4 million of direct output” (Extract 6) that the UK economy has enjoyed.

Figure 1: Sustained growth



- In addition, the development of biodegradable plastic would encourage more environmentally sustainable practices and reduce the extent of damage to the environment, helping India to achieve sustainable growth. The increase in material and non-material living standards of Indian residents from sustainable growth could hence be reasons for why the Indian government should develop the biodegradable plastic industry.

Antithesis – explain how the development of biodegradable plastic industry could also incur costs to the India economy.

- However, the Indian government may not want to develop the biodegradable plastic industry because of the negative consequences to the India economy.
- Conventional plastics production currently dominates the plastic industry in India, “employs about 4 million people” and “host more than 2,000 exporters.” This means that the conventional plastic industry is a large driver of growth because it generates export revenue and employment.
- Should the government develop the biodegradable plastic industry, this could result in a decline of the conventional plastic industry. When the derived demand for labour in the

production of conventional plastics fall due to reduced production, there could be significant structural unemployment. Workers working in the conventional plastic industry tend to be occupationally immobile and are likely to lack the relevant skills to transit to the biodegradable plastic industry.

- Given the “availability of raw materials in the country,” India is likely to enjoy a comparative advantage in the production of conventional plastics because of its factor endowments and lower costs of production. If the raw materials to produce biodegradable plastics have to be imported, this may drive up the cost of production, causing producers to enjoy less profits. If these higher production costs are passed to consumers in the form of higher prices, the price competitiveness of biodegradable plastics may be lost, resulting in a fall in net exports, a decrease in aggregate demand and negative growth in India.

Evaluative conclusion

- Whether the Indian government should develop the biodegradable plastic industry like the UK depends on the magnitude of the benefits relative to the costs on the economy.
- [Time frame + Magnitude]** In the short run, it seems undesirable to develop the biodegradable plastic industry given that the employment opportunities of an increase in “roughly 1,000 jobs” is much less than the “4 million people” currently employed in the conventional plastic industry. However, in the long run, consumers are likely to become more environmentally conscious. The demand for biodegradable plastics will tend to rise, while demand for its substitute, conventional plastics, will fall.
- [Stand]** Hence, the Indian government should be forward looking in its decision-making, and try to develop a comparative advantage in the development of biodegradable plastics to remain competitive globally.
- [Alternatives]** To mitigate the negative impacts of restructuring the plastics industry, initiatives such as providing training and education to help workers transit to the biodegradable plastic industry to alleviate structural unemployment could be implemented.

Mark Scheme

Level	Knowledge, Application/Understanding, and Analysis	Marks
L2	For a well-developed and balanced answer that <ul style="list-style-type: none"> discusses the benefits and cost of the India government developing the biodegradable plastic industry. Provides sufficient scope to include the microeconomic and macroeconomic impact on the India economy. Is well-supported with case material 	5 – 7
L1	For an underdeveloped answer that <ul style="list-style-type: none"> provides one-sided explanation of the benefits <u>OR</u> cost of the India government developing the biodegradable plastic industry. OR <ul style="list-style-type: none"> explains both the benefits <u>AND</u> costs of the India government developing the biodegradable plastic industry without <ul style="list-style-type: none"> rigorous use of economics concepts and/or reference to case context 	1 – 4

E2	Provides a clear evaluative conclusion/judgement on whether the India government should follow the UK to develop the biodegradable plastic industry, taking into account case material and the context of the India economy	2 – 3
E1	An unsubstantiated judgement on whether the India government should follow the UK to develop the biodegradable plastic industry	1

Marker's comments:

- For the thesis argument, students who tried to argue how the development of biodegradable plastic industry can help reduce negative externalities overly emphasised on the market failure from the consumption of conventional plastics. As a result, they did not show rigour in analysing how the development can help achieve allocative efficiency, which should have been the focus of their answers.
- Some students erroneously explained bioplastics to be a merit good, and/or conventional plastics to be a demerit good. A common error was also the misinterpretation that “the availability of raw materials” referred to the production of biodegradable plastics instead of conventional plastics.
- It was quite disappointing to note that many students did not use the AD/AS framework in their answers. These students who form the majority of the cohort, ended up with descriptive answers that lacked economic analyses.
- A general weakness of the cohort is in the development of arguments due to a lack of elaboration. Often, claims and assertions are made without adequate support, resulting in descriptive answers. For example, many students only stated the benefits of developing the biodegradable plastic industry, and lifted accompanying quotes from the case.
 - These students should have analysed how the benefits could have come about using relevant economic concepts to demonstrate rigour. As a general guide, try to address all the “how” and “why” behind statements made. To demonstrate rigour, students should use tools of analysis like the AD/AS framework, and include diagrammatic analysis to improve the quality of their answers.
- For evaluation, while the criteria such as the budget position of the government and level of development of a country were stated as factors that would influence the desirability of the Indian government’s decision to develop the biodegradable plastic industry, not many went on to justify why these factors were important. For instance, students stated that India is a developing country and should hence focus on sustained growth instead of sustainable growth without justifying this claim.
- On a positive note, the majority of candidates were able to structure their answers to demonstrate a balanced discussion, and allocated time to attempt evaluation, hence addressing the requirements of the command word “evaluate”.

Question 2 Donald Trump and the US economy
Suggested Answers

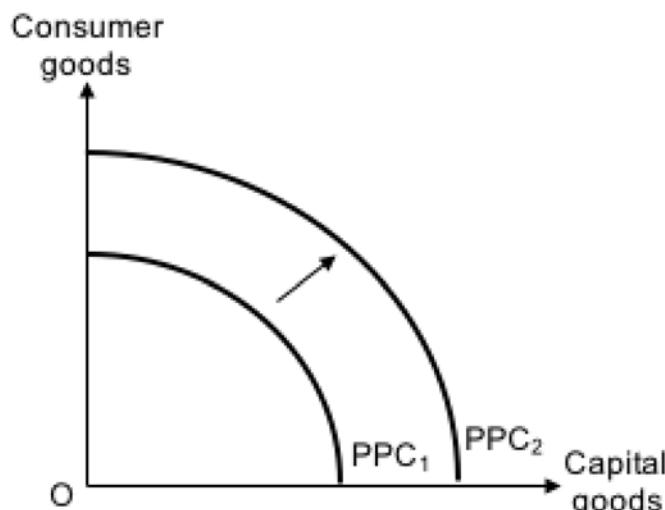
(a)	(i)	Summarise the trend in the US Current Account Balance from 2013 to 2017.	[2]
		<ul style="list-style-type: none"> There was an overall worsening of current account deficit by 28.8% [1] The greatest worsening of the deficit was from 2014 to 2015 by 11.7% [1] 	
<u>Marker's comments:</u>			
		<ul style="list-style-type: none"> Most students did not indicate a significant refinement from the trend. Students are expected to calculate % changes instead of absolute changes. 	
(a)	(ii)	Using a diagram, explain how the above trend affects the external value of the USD.	[4]
		<ul style="list-style-type: none"> The worsening of current account deficit would indicate that there was more outflow of USD than inflow of USD. Since there was less demand for USD by foreigners, DD curve shifted from DD to DD_1 in Figure 1. [1] There was an increase in supply of USD as US residents increased their demand for foreign currency. The supply curve shifted from SS to SS_1. [1] From Figure 1, the external value of USD fell (or USD has depreciated) as a result of a decrease in demand for USD and an increase in supply of USD. [1] Correctly labelled diagram that matches analysis. [1] 	
<u>Figure 1: Demand & Supply of the USD</u>			
<u>Marker's comments:</u>			
		<ul style="list-style-type: none"> Some students failed to determine the focus of this question. Most students did not consider how demand for USD and supply of USD change as a result of a current account deficit. Axes were labelled incorrectly or incompletely. Acceptable Y axis are: <ol style="list-style-type: none"> SGD/USD Price of USD in terms of SGD 	

- 3. Value of USD to SGD
- 4. Value of SGD per USD.

(b)	Using a Production Possibilities Curve, explain how the proposed immigration law will impact the US economy.	[3]
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- The proposed immigration law will slow down the rate of increase of immigrants into the US. Assuming these immigrants take on jobs in the US, this translates to an increase in quantity of labour into the US, increasing her productive capacity, albeit at a slower rate than before. [1]
- As seen in Figure 2, the Production Possibilities Curve thus shifts outwards, from PPC_1 to PPC_2 . [1]
- National output and income of the US economy increases as a result.
- Correctly labelled diagram that matches analysis. [1]

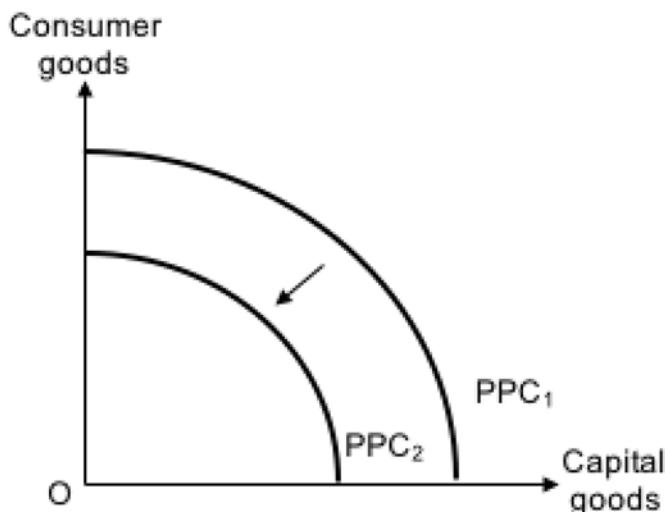
Figure 2: PPC of US economy



Alternative answer

- Assuming that the rate of inflow and outflow of labour into and out of the US workforce were constant before the law was enacted, the proposed immigration law will decrease the inflow of labour into the US workforce, ceteris paribus. This results in the reduction of the quantity of labour in the workforce, thus reducing her productive capacity.
- As seen in Figure 3, the Production Possibilities Curve thus shifts inwards, from PPC_1 to PPC_2 . [1]
- National output and income of the US economy decreases as a result.
- Correctly labelled diagram that matches analysis. [1]

Figure 3: PPC of US economy



Note: both answers were accepted and were given full credit if the economic reasoning that accompanied the shift of the PPC was accurate.

Marker's comments

- This question was not well done as many students have forgotten the diagram and concepts that are relevant to PPC. A large number of students were not able to draw a complete and accurate PPC diagram. Many students wrongly label the axis, or did not even bother to label the axis.
- Students should recall that a PPC shows different combination of two goods that an economy can produce and both axis should be labelled with quantities of different type of goods, namely consumer and capital goods. The labelling of the axis as quantities of good A and good B would not be as suitable as these are hypothetical and less contextualised to the macroeconomy.
- Students should note that they need to label the PPC curves.
- Many students drew the PPC shifting inwards due to a cut in immigration numbers, which is inaccurate, as there would still be immigrant entering the economy, just at a slower rate each year and hence the PPC should shift outwards by a smaller extent.

(c)		Using Extract 8, explain how automatic stabilisers work.	[3]
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Define automatic stabilisers [1]

- Automatic stabilisers are a form of fiscal policy that offsets fluctuations in aggregate demand during changing economic conditions without policymakers having to take any deliberate action. [1]

Explain how automatic stabilisers work using evidence from Extract 8 [2]

- Extract 8 mentioned that there “fewer Americans applied for unemployment benefits” and “unemployment claims slide by 14000”. This suggests that unemployment benefits fell as there are fewer unemployed workers due to the expansion of the economy, possibly due to an increase in AD. [1]
- As the US government spends less on unemployment benefits, there would be a contractionary effect. Assuming the workers spend these benefits on domestic consumption (C), lesser unemployment benefits given out will prevent further increases in AD. This dampens the initial expansionary effect and stabilises the US economy. [1]

Marker's comments:

- Many students were unfamiliar with what automatic stabilisers are and their role in the economy, indicating a need to review this concept.
- A significant proportion of students who were able to explain how automatic stabilisers work, did not explain it based on Extract 8. Such answers explained about progressive tax systems and/or a rise in unemployment benefits during a recession. Students should recognise that the automatic stabiliser mentioned in Extract 8 is unemployment benefits, which fell due to the growing economy. This helps to prevent AD from rising excessively and dampens the expansionary effect felt in the economy.
- A point to note is that automatic stabilisers do not alter the direction of change in AD, but merely reduce the extent of the initial change in AD, thus mitigating the initial contractionary or expansionary effect on the economy.

(d)	Comment on whether the data provided is sufficient to conclude that there has been inclusive and sustainable growth in the US economy.	[8]
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Question interpretation

Command word/phrase	<i>Comment on</i>	Provide balanced analysis and make a judgement on whether data provided is sufficient to conclude that there has been inclusive and sustainable growth in US economy
Content	<i>Data provided</i> <i>Inclusive and sustainable growth</i>	Use data to link to inclusive and sustainable growth Two different types of economic growth
Context	<i>US economy</i>	Economy of USA

This answer requires students to utilise the data to explain the parts where the data is able and unable to show that there has been inclusive and sustainable growth in the US economy. The evaluation involves an appropriate and reasoned comment on whether the data is sufficient or insufficient to conclude that there has been inclusive and sustainable growth in the US economy.

Introduction

- Inclusive growth indicates a rate of growth that is sustained over a period of time, is broad-based across economic sectors, and creates productive employment opportunities for the majority of the country's population.
- Sustainable economic growth indicates a rate of growth that can be maintained without creating other significant economic problems.
- This response aims to analyse whether the data provided is sufficient to conclude that there has been inclusive and sustainable growth in the US economy.

Thesis: Explain how the data concludes that there is inclusive growth in US economy

- The data in Table 1 may be sufficient to conclude that there has been inclusive growth in the US economy.
- The GDP per capita has increased from \$52,726 in 2013 to \$59,535 in 2017. Inflation rates as measured by the change in consumer price index has been positive from 1.46% in 2013 to 2.13% in 2017. The unemployment rate has fallen from 7.38% in 2013 to 4.35% in 2017. These three indicators show that there has been sustained economic growth in US.
- Furthermore the GINI coefficient, which measures the wealth distribution of a country's residents, fell from 0.396 in 2013 to 0.391 in 2017. This reflects that there has been a more even distribution of income in the US economy, thus suggesting that there has been inclusive growth.

Anti-thesis: Explain how the data may not conclude that there is inclusive and sustainable growth in US economy

- While there was a fall in unemployment rate, it is not clear from the data if this was due to a rise in productive employment opportunities across a broad range of economic sectors. Also, it cannot be concluded if the employment opportunities were for a majority of the country's population or mainly for the higher-skilled workers. Hence, the data may not be entirely sufficient in showing that there has been inclusive growth in US.
- Despite a fall in the Gini coefficient, the fall is slight and the Gini coefficient remains relatively high. For a more accurate conclusion on inclusive growth, it would be beneficial to know if the Gini coefficient has taken into account taxes and transfers. If the Gini coefficient is significantly lower after taking into account the effects of the redistributive policies, there is clearer evidence of inclusive growth.
- The data provides information on the economic growth situation of the US. However, it does not provide information of how the growth is achieved, which could have been at the expense of the environment. There is no data or indicators on the environmental situation in US, or information on the policies taken by the government to mitigate adverse impacts to the environment, which could have allowed us to determine whether there was sustainable growth.

Evaluative Conclusion

- **[Stand]** The data provided is insufficient to conclude that there has been inclusive and sustainable growth in the US economy.
- **[Alternatives]** In order to determine if there was sustainable growth, we would require more data on the impact of economic growth on the environment. Some examples include, the level of carbon taxes, air quality index and the environmental sustainability index. For us to determine accurately if there was inclusive growth, we would require data on the type of employment opportunities created in the economy. Also, we would need to have information on whether the GINI coefficient has taken into account the level of taxes and transfers.

Mark Scheme

Level	Knowledge, Application/Understanding, and Analysis	Marks
L2	<p>For a well-developed and balanced answer that</p> <ul style="list-style-type: none"> discusses both the sufficiency and insufficiency of the data in concluding inclusive and sustainable growth in the US economy. <p><i>*A well-explained one sided response for how the data might be sufficient in concluding inclusive and sustainable growth can score a max of 4 marks.</i></p>	4 – 6
L1	<p>For an underdeveloped answer that</p> <ul style="list-style-type: none"> is one-sided and only discusses how the data might be sufficient or insufficient in concluding inclusive and sustainable growth in the US economy, OR briefly discusses how the data might be sufficient and insufficient in concluding inclusive and sustainable growth in the US economy. 	1 – 3
E	Up to 2 marks for valid evaluative comment (s) on whether the data provided is sufficient in concluding that there is inclusive and sustainable growth in the US economy.	1 – 2

Marker's Comments:

- Many students were confused with the requirements of the question and misinterpreted the question as one of the following:
 - o Comment on whether the data shows that there is inclusive and sustainable growth in the US economy.
 - o Comment on whether the policies implemented have achieved inclusive and sustainable growth in the US economy.
- It is important to be clear what the issue of contention is in the question - whether there is enough data provided in the case to show that inclusive and sustainable growth exist in the US economy. If it is argued that there is insufficient data, students should clearly point out the limitations of the data present and the data that is lacking in the case.
- Students are reminded to be discerning in their selection of case material as data or evidence to be used to support their arguments.
 - o A number of students did not use the data provided in Table 1 at all, though the economic indicators provide the most objective evidence of the growth situation in the US economy. Instead, these responses made often tenuous inferences of the existence of inclusive and sustainable growth from other data present in the case, such as Trump's immigration laws (Extract 7) or the increased protectionism in US

(Extract 9). Such responses ended up explaining the possible impact of such policy measures on inclusive and sustainable growth in US instead.		
(e)	Discuss the factors that governments should consider when enacting protectionist measures like tariffs.	[10]

Question interpretation

Command word/phrase	<i>Discuss the factors</i>	Discuss the different factors that governments would consider before making the decision to enact protectionist measures
Content	<i>Factors to consider, protectionist measures like tariffs</i>	Factors to consider: benefits, costs, unintended consequences, constraints, information Protectionist measures: Tariffs, Import quota
Context	<i>No specific context</i>	Students are to set their own context

This question requires students to consider the different factors in the government's decision making process before enacting protectionist measures like tariffs. The evaluation would require a well-reasoned judgement on which factor (s) is/are more important to the government in making the decision.

Introduction

- Protectionism is defined as the act of imposing economic policies aimed at restricting or restraining trade between countries, designed primarily to protect domestic producers and workers from foreign competition.
- Protectionist measures can be implemented to give domestic producers an advantage in the international market or to narrow a trade gap.
- An import tariff is a tax levied on imported goods or factor inputs.
- This answer aims to discuss the different factors that governments should consider when enacting protectionist measures like tariffs.

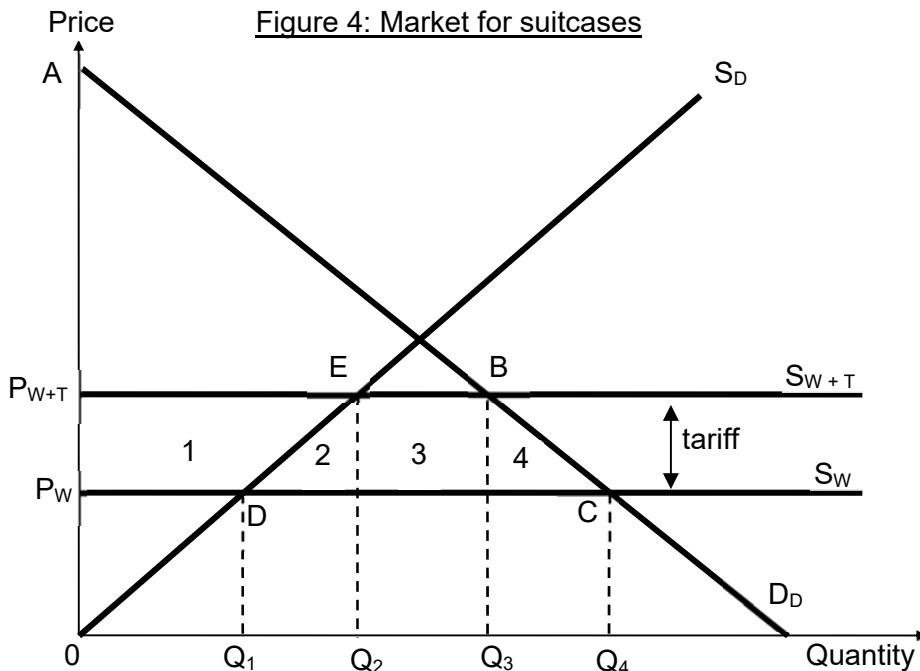
Body

Key Argument 1: The government should consider the benefits of enacting protectionist measures

- When making a decision to enact protectionist measures like tariff, governments would consider the higher profits, increased producer surplus enjoyed by domestic producers, and the sheltering of domestic industries from foreign competition.
 - From Figure 4, if the country produces a good like suitcases on its own without free trade, the domestic demand and supply curves for suitcases are represented by D_D and S_D respectively.
 - When the country is open to free trade, and assuming that the country is too small to affect world markets and prices, the country faces the perfectly price inelastic world supply for suitcases, S_W . Price of suitcases is now at P_W , domestic consumers

consume $0Q_4$ units of suitcases while domestic producers produce $0Q_1$ units. The remaining Q_1Q_4 units of suitcases are imported.

- When a specific import tariff on suitcases is enacted, the supply curve for suitcases shift upwards by the amount of tariff per unit of suitcase, to S_{W+T} . The price of suitcases now increases to P_{W+T} , where domestic consumers consume $0Q_3$ units of suitcases while domestic producers produce $0Q_2$ units. The remaining Q_2Q_3 units of suitcases are imported.



- These are the benefits for that the governments have to consider:
 - Domestic producers gain from higher producer surplus, as it increases from $0P_WD$ before the tariff to $0P_{W+T}E$ after the tariff.
 - In addition, they benefit from higher revenue as the price P_{W+T} and the quantity Q_2 are both higher than before (P_W and Q_1). Assuming costs remain constant, they will earn higher profits as a result of the tariffs.
 - Industries that tariffs are implemented on benefit from being sheltered from foreign competition.
 - When tariffs are implemented on an infant industry, it has time and room to develop its comparative advantage. They can therefore grow to a point where they become internationally competitive.
 - When tariffs are implemented on a sunset industry, it slows down the contraction of the industry, allowing workers more time to acquire skills to transit into another industry, thus lowering structural unemployment.
 - Government achieves their macroeconomic goals of actual growth and low unemployment.
 - With tariffs and assuming demand for imports is price elastic, import expenditure (M) falls (price of imports increase, quantity demanded decrease) as domestic consumers switch to cheaper domestic products. As M falls and domestic consumption increases, there is an increase in AD .

- As AD increases, real national output increases, and actual growth is achieved. Demand-deficient unemployment decreases as the higher output requires firms to demand more labour.

Key Argument 2: The government should consider the costs of enacting protectionist measures

- When making a decision to enact protectionist measures like tariff, governments would consider the costs of the decision, like higher prices, reduced consumer surplus, welfare loss, negative growth and unemployment.
- The costs that governments should consider are:
 - With a tariff, consumers now pay a higher price to consume the good (P_{W+T}) compared to P_W before the tariff.
 - Consumers suffer from lower consumer surplus, as it decreases from ACP_W before the tariff to ABP_{W+T} after the tariff.
 - There is also a welfare loss of Areas 2 and 4 after the tariff is imposed, thus resulting in allocative inefficiency.
 - Area 2 is incurred due to the higher price that consumers pay after the tariff is imposed, and area 4 is incurred because the less efficient domestic producers are producing the extra Q_1Q_2 units of the good in the market.
 - There would also be a ‘beggar-thy-neighbour’ effect, preventing the government from achieving their macroeconomic goals.
 - When a country imposes tariffs, her import expenditure falls and hence the export revenue of her trading partner falls. As a result, the trading partner’s ($X - M$) and hence AD falls, leading to a fall in national income.
 - With a lower income, the trading partner will reduce demand for the exports of the country that imposed the tariffs. With reduced export revenue, AD falls, leading to negative growth and demand-deficient unemployment.

**Note: you may decide to include this following argument to broaden the scope of discussion. Other possible arguments would include: constraints that the government face, and information that they require in their decision making.*

Key Argument 3: The government should consider the unintended consequences of enacting protectionist measures

- When making a decision to enact protectionist measures like tariff, governments would consider the unintended consequences of the decision.
- When a country imposes a tariff, there may be potential unintended consequences like retaliation. Trading partners may retaliate with similar tariffs on that country’s goods and services.
 - From Extract 10, it can be seen that China retaliated with tariffs after US imposed tariffs on Chinese goods.
 - When China retaliates with tariff on US goods, US export revenue will fall, leading to a fall in her AD. This may offset the initial benefits reaped by the US from imposing tariffs on Chinese goods.

Evaluative Conclusion

- **[Stand]** Governments would have to first weigh the benefits and the costs before enacting protectionist measures like tariffs. When the benefits outweigh the costs, protectionist measures should be enacted. When the costs outweigh the benefits, they should not be enacted.
- **[Situation + Magnitude]** A country's reliance on its imports and exports could determine whether the benefits outweigh the costs, or vice versa.
 - A small and open country like Singapore is likely to be very dependent on her trade sector, hence protectionist measures would incur higher costs than benefits.
 - As Singapore lacks natural resources, tariffs imposed on imported factor inputs would raise their prices and hence the economy wide cost of production, leading to the high costs of inflation and negative growth.
 - Furthermore, Singapore relies heavily on her exports as the driver of her economic growth. With protectionist measures in place, the high costs incurred due to her trading partners' loss of income would severely impact her economy.
 - A large country with a big domestic market on the other hand, may reap greater benefits than costs when enacting protectionist measures.
 - Countries like China have abundance of resources and are likely incur lesser costs from enacting protectionist measures as they tend to not be reliant on imported factor inputs.
 - Moreover, they may not be dependent on their exports as they can tap on their large domestic market to drive their economic growth.
 - **[Magnitude]** Furthermore, as the trade sector is likely to take up a smaller proportion of their AD relative to other components, the costs and negative unintended consequences incurred by enacting protectionist measures (like the 'beggar-thy-neighbour' effect and retaliation) are likely to be less significant.

Mark Scheme

Level	Knowledge, Application/Understanding, and Analysis	Marks
L2	For a well-developed and balanced answer that <ul style="list-style-type: none"> • rigorously discusses different factors that governments have to consider before enacting protectionist measures 	5 – 7
L1	For an underdeveloped answer that <ul style="list-style-type: none"> • lacks sufficient scope of discussion (e.g. only discusses one factor), OR • has sufficient scope but lacks rigour in analysing different factors that governments should consider when enacting protectionist measures 	1 – 4
E	Up to 3 marks for valid evaluative comment (s) on the most significant factor that governments should consider when enacting protectionist measures.	1 – 3

Marker's comments:

- This question was fairly well attempted, with a good number of students scoring L2 marks.
- Students who did not do as well mainly listed factors that the government should consider and vaguely described them without much economic concepts. These weaker answers lacked rigour in explanation.
- For questions on protectionism, students are reminded that the tariff diagram is a powerful tool as it is able to help them explain **both** benefits and costs of these policies. As such, they should make it a point to learn how to describe the workings of a tariff and how to use it to discuss both benefits and costs of such a policy.
- The evaluation for similar decision making styled questions could involve a weighing of the factors: benefits vs costs, or a progressive ranking of the factors: consider benefits and costs first, then constraints, then unintended consequences.

H2 Paper 2 Suggested Answers

- 1 Amidst a growing economy and the increased use of personal mobility devices, the food delivery industry has changed the way food reaches consumers. If restaurants and hawkers choose to deliver their food to the doorsteps of customers, they have to pay a small commission fee.

Discuss the impact of the above events on the market for food delivery and its associated markets. [25]

Question Interpretation

Command word/phrase	Discuss the impact	This is a cause-and-effect question where students are required to consider the impact of factors in the preamble on the different markets and how the impact might vary in different markets.
Content	impact of above events on the market(s)	The 'cause' are the various demand and supply factors in the preamble and the 'effect' are the price and quantity changes in the various markets
Context	food delivery... associated markets	The context is on food delivery and other food markets associated with it.

A relevant response requires students to consider how the factors in the preamble affects the food delivery market and at least two other markets. Students will be required to show a thorough understanding of demand and supply factors, as well as factors affecting the various elasticity concepts, in order for a deep discussion of the impact on different markets.

Introduction: Identify the markets to be discussed and recognise what 'impact on market' means

- In this essay, I will be discussing various markets that will be affected by the events indicated in the preamble, namely the **food delivery market**, the **market for restaurants who use food delivery services**, the **market for hawkers who use food delivery services** and the **market for other food businesses who do not use food delivery services**.
- For each market, I will be discussing the impact in terms of changes in equilibrium price and quantity in each market, based on the events in the preamble, while considering elasticity factors, as well as any potential effects of one market on another.

Body:

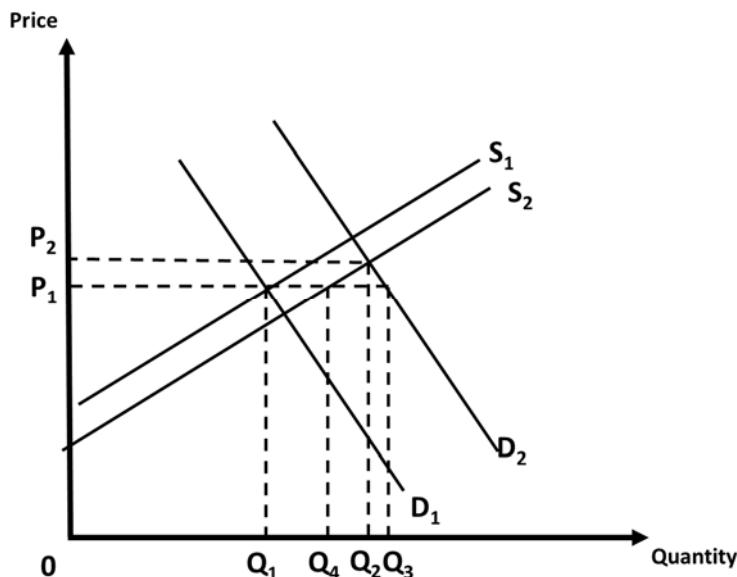
Market 1: Impact of events on food delivery market

- In the market for food delivery, the increase in income levels due to Singapore's growing economy will likely cause an increase in demand for food delivery.
 - With the relative high income levels of Singaporeans, food delivery services can be seen to be a normal, necessity good that results in a less than proportionate increase in demand (i.e. $0 < \text{income elasticity of demand (YED)} < 1$). As such, the rise in demand will be less than proportionate to the increase in income.
 - To consider the impact of the rise in demand on equilibrium price and quantity, we should consider the Price Elasticity of Supply (PES) for food delivery services. As there is easy access to personal mobility devices, the supply of delivery workers

should be easily adjustable in responses to price changes, as such it can be argued that PES is >1 .

- As such, *ceteris paribus*, the increase in demand will likely lead to a small increase in equilibrium price and relatively large increase in equilibrium quantity.
- Also there will be an increase in supply for food delivery with the increased use of personal mobility devices, which increases the number of delivery workers available to the industry.
 - To consider the impact of the rise in supply on equilibrium price and quantity, we should consider the Price Elasticity of Demand (PED) for food delivery services. As such services take up a small proportion of the average Singaporeans' income and because of the convenience of the services, the demand is likely to be price inelastic (i.e. $0 < \text{PED} < 1$).
 - As such, *ceteris paribus*, the increase in supply will likely lead to a large fall in equilibrium price and a relatively small increase in equilibrium quantity.

Fig 1: Market for food delivery services



- As seen from Fig 1, with the increase in demand from D_1 to D_2 and the increase in supply from S_1 to S_2 due to the above analysis, there will be a shortage of $Q_3 - Q_4$ at the original equilibrium price of P_1 . As a result, there will be an upward pressure on prices, leading to a fall in quantity demanded and a rise in quantity supplied until the new equilibrium price of P_2 and equilibrium quantity of Q_2 is reached. As there is an increase in both demand and supply, there will be a definite increase in the equilibrium quantity from Q_1 to Q_2 . However, the effect on equilibrium price depends on the relative shift of demand and supply curves.
 - **[Magnitude, Situation]** As the income increase affects the entire population, it is likely to cause a large increase in demand as compared to the increase in supply, as while personal mobility devices are more accessible, there may not be a large increase in supply as there are other viable jobs in Singapore that deliverymen can choose from. As such, there is likely to be an increase in equilibrium price from P_1 to P_2 in the food delivery industry.

Markets 2 and 3: Impact of events on markets for restaurants and hawkers that take up food delivery services.

- Similar to the market for food delivery, the increase in income levels due to Singapore's growing economy will likely cause an increase in demand for both restaurants and hawkers as people transit from eating at home to eating out. This is because of a higher ability to

eat out, but it is also due to an increased willingness to eat out – as people's lives become more hectic, there is less time to prepare food at home and hence eating out becomes a more attractive option.

- However, the increase in demand due to the income increase will differ between restaurants and hawkers due to differing YED values. Hawker food are likely to be classified as normal necessity goods ($0 < \text{YED} < 1$) while restaurant food are more likely normal luxury goods ($\text{YED} > 1$). As such hawkers will see a less than proportionate increase in demand due to the increase in income and for the same increase in income of the population, restaurants will be likely to see a more than proportionate increase in demand.
- For restaurants and hawkers that use food delivery services, they are likely to experience a further increase in demand for their food as well, as these services have made it more convenient for people to access their food.
 - However, it is likely that the increase in demand for restaurants are likely to be much larger than the increase in demand for hawkers. This is because food delivery services take up a smaller proportion of the cost of restaurant food, as compared to the cost of hawker food. As such, consumers are more likely to engage food delivery services for restaurants, resulting in a larger increase in demand for restaurant food.
- When restaurants and hawkers take on food delivery services, with the requirement of a commission fee, this increases their costs of production and results in a fall in supply by the extent of the commission fee.

Fig 2: Market for restaurants using food delivery services

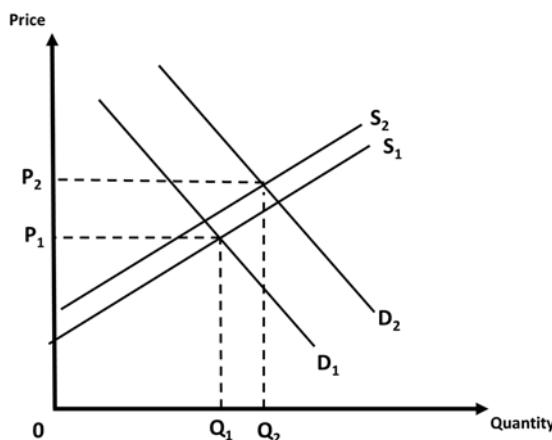
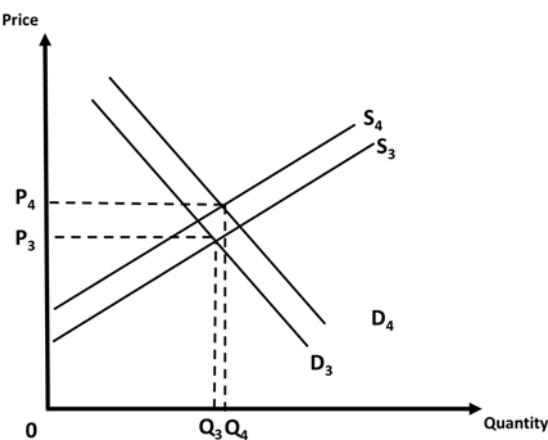


Fig 3: Market for hawkers using food delivery services



- As can be seen from Figures 2 and 3, the aforementioned events will cause a rise in demand and fall in supply for both the market for restaurants ($D_1 \rightarrow D_2$ and $S_1 \rightarrow S_2$) and market for hawkers ($D_3 \rightarrow D_4$ and $S_3 \rightarrow S_4$) who use delivery services. The effects will both cause a rise in equilibrium price. However, the impact on equilibrium quantity is uncertain.
 - **[Magnitude]** It is likely that with two different factors increasing demand (increase in income and convenience from delivery services), both hawkers and restaurants will face a rise in demand that is more than the fall in supply, leading to a rise in equilibrium quantity.
 - **[Magnitude]** However, the increase in demand is likely to be greater for restaurants than hawkers (due to greater YED value for restaurants and a likely greater increase in demand due to delivery services), leading to a greater increase in equilibrium quantity for restaurants than hawkers.

Market 4: Impact of events on markets for restaurants and hawkers that do not take up food delivery services.

- Compared to markets 3 and 4, these markets will just be affected by an increase in the income levels. However, there will be differing impacts in both markets due to differences in PES and YED values.
 - As argued in the previous section, the increase in demand due to the income increase will differ between restaurants and hawkers due to differing YED values. Hawkers are likely to be classified as normal necessity goods ($0 < \text{YED} < 1$) while restaurants are more likely normal luxury goods ($\text{YED} > 1$).
 - Also, the effect of the increase in demand will differ due to different PES values for both industries. The supply for restaurants is likely to be more price inelastic as they use more premium ingredients that might be sourced from specific suppliers and hence quantity supplied cannot be easily increased on short notice when there are price increases. In contrast, the supply for hawkers is likely to be more price elastic as many of the ingredients they use (e.g. noodles, rice, vegetables) are available in large quantities from many different suppliers, which makes it relatively easy to increase quantity supplied in response to increases in price.

Fig 4: Market for restaurants NOT using food delivery services

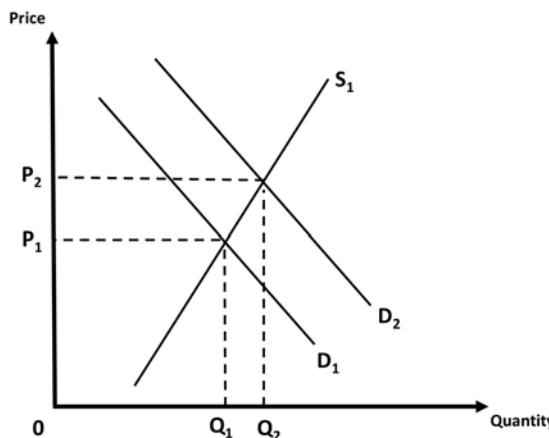
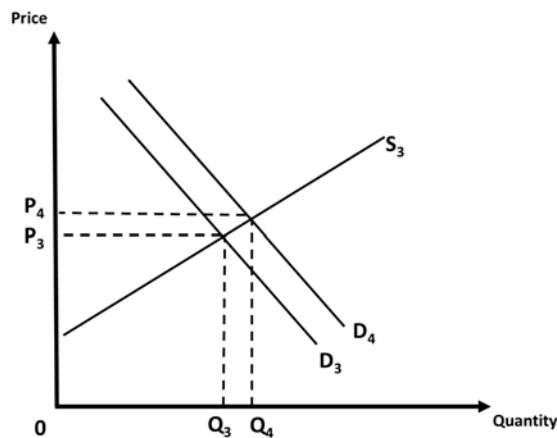


Fig 5: Market for hawkers NOT using food delivery services



- As can be seen from Figures 4 and 5, the aforementioned events will cause a rise in demand for both the market for restaurants ($D_1 \rightarrow D_2$) and market for hawkers ($D_3 \rightarrow D_4$). The effects will both cause a rise in equilibrium price and quantity.
 - [Magnitude]** Due to the larger YED value and the smaller PES in the market for restaurants, there is likely to be a much larger price rise in the market for restaurants, as compared to hawkers.
 - [Time Frame]** In the long-run, the differences in PES values in both markets is likely to be less significant as given time, restaurants can source for substitute sources for their premium ingredients. This might dampen the increase in price for Market 4 in the long run.
 - [Magnitude]** However the increases in price and quantity for Market 4 is likely to be less significant as compared to Market 2, as Market 4 does not experience the increase in equilibrium price and quantity due to the take-up of delivery services.

Note: a good answer does not necessarily need all five markets above! A strong analysis would have a scope of at least 3 different markets (of course, with the food delivery market being one of them).

Evaluative Conclusion:

*note that there have been multiple opportunities for evaluation within the body paragraphs themselves!

- [Stand] As can be seen from the above analysis, markets for both food delivery and food services are likely to get a rise in equilibrium price and quantity as a result of the rise of food delivery services and the rise in income, with increases in demand likely to be the more influential effect than any supply changes.
- [Magnitude] The one factor that is likely to affect all markets analysed is the growing economy, but the extent to which it influences the different markets depends on the respective YED values of the different markets.

Mark Scheme

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For a balanced and rigorous answer <ul style="list-style-type: none"> • that explores the impact of events in the preamble on equilibrium price and quantity in the food delivery markets and at least 2 other markets, • with accurate use of various demand, supply and elasticity concepts in analysis, and • with a good application of the contexts of the various markets. 	15 - 20
L2	For an underdeveloped answer <ul style="list-style-type: none"> • that explores the impact of events in the preamble on equilibrium price and quantity in the food delivery markets and only 1 other market, OR • that explores the impact of events in the preamble on equilibrium price and quantity in the food delivery markets and at least 2 other markets, but <ul style="list-style-type: none"> ◦ with several gaps in the use of content, and/or ◦ with a lack of the application of the contexts of the various markets. <p>If only 1 market was analysed, marks are to be capped at a maximum of 10.</p>	9 - 14
L1	For an answer that shows some knowledge of the impact of the different events on the different knowledge, but with a lack of accurate economic analysis in the explanation.	1 - 8
Level	Evaluation/Synthesis	Marks
E3	For an answer that critically evaluates whether the market changes are similar in all markets and is able to identify and justify why changes might differ for different markets.	4 – 5
E2	For an answer that attempts to evaluate whether the market changes are similar in all markets but with logical gaps in justification on why changes might differ for different markets.	2 – 3
E1	For an answer that gives an unsupported evaluative statement(s) that addresses the question.	1

2 Under the 2013 Drug Price Control Order, India has adopted price controls to cap the prices of over 300 pharmaceutical drugs in the market.

(a) Explain the considerations of governments when imposing price controls in different markets. [10]

(b) Assess the view that the main use of government subsidies is to achieve an efficient allocation of resources in markets. [15]

(a)

Question Interpretation

Command word/phrase	<i>Explain</i>	Give clear reasons or make clear the meaning of, use examples and explain the theory behind the question
Content	<i>considerations of governments</i>	Consider the factors (e.g. benefits, costs, unintended consequences, constraints) that will influence governments' decision-making
	<i>price controls</i>	Price ceiling (maximum price) and price floor (minimum price)
Context	<i>different markets</i>	No specific context; to illustrate with examples of different markets (e.g. product and/or factor markets)

Students are required to consider the factors (e.g. benefits, costs, unintended consequences) that will influence governments' decisions to impose price controls – both a price ceiling and price floor in different markets.

Introduction

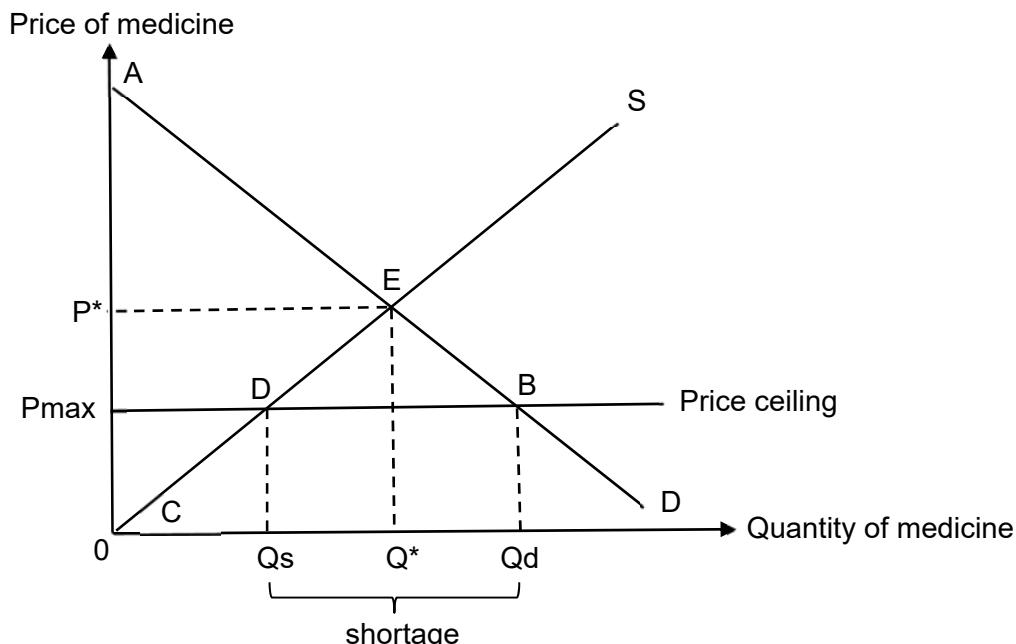
- Price controls use legislation to set the price level in markets, thus inhibiting the workings of the price mechanism. Price controls can be classified into price ceiling (maximum price) and price floor (minimum price).
- The imposition of price controls can bring about benefits in terms of increased equity but can also result in costs and unintended consequences which governments would have to take into account when imposing price controls in different markets.

Body

Argument 1: A government would consider the benefits and costs of imposing a price ceiling

- When making a decision to impose a price ceiling for medicine, a government would consider the increased equity enjoyed by consumers, especially the lower income who are now able to have greater access to affordable medicine.
 - A price ceiling is a legal maximum price on which a good can be sold. To be effective, it needs to be set below the market equilibrium price.
 - As seen in the figure 1, the initial free market equilibrium price and quantity is P^* and Q^* respectively. When a price ceiling is imposed in the market for medicine, the price of medicine falls to P_{max} .

Figure 1: Effects of a price ceiling



- The consumer surplus increases from area AEP^* to area ABP_{max} . The lower price of medicine at P_{max} would allow more consumers who were initially priced out of the market due to their inability to pay, to now be able to consume medicine, which is a necessity.
- One reason that India adopted a price control on medicine could be because India is a developing country with a large population living in poverty. The benefits of increased equity from allowing more consumers to have access to affordable medicine could hence be a consideration of the India government when it imposed a price ceiling “to cap the prices of over 300 pharmaceutical drugs in the market.”
- However, a price ceiling also brings about costs and unintended consequences, which needs to be considered by the government as well.
 - A price ceiling would increase quantity demanded to Q_d and reduce quantity supplied to Q_s , resulting in a shortage of $Q_d - Q_s$ units.

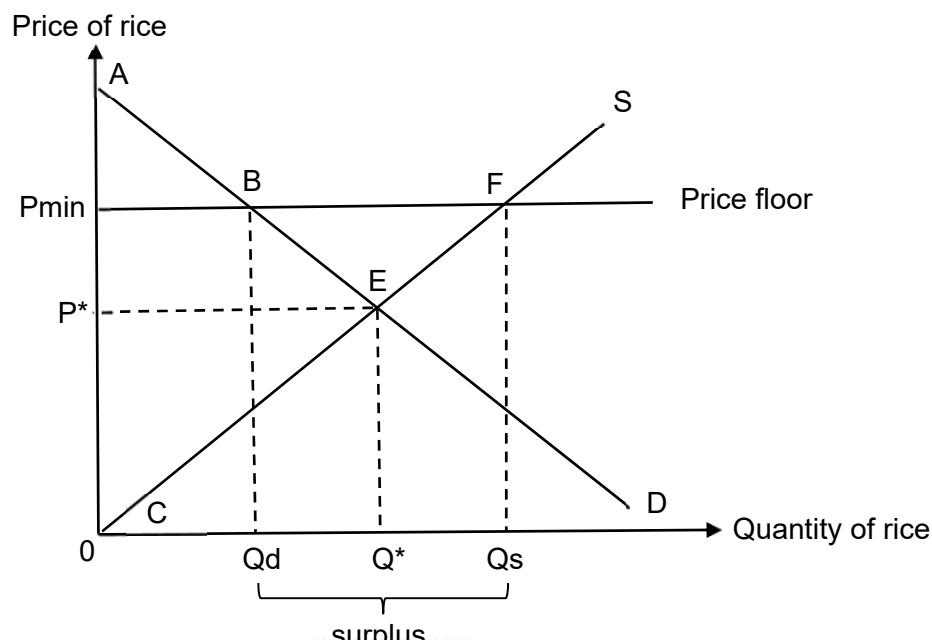
Any two of the following explanations would suffice:

- Given the shortage, the good has to be distributed. This can be distributed via queues, where consumers buy the good on a first-come first-served basis or via balloting. However, these methods do not always achieve equitable outcomes as it is difficult to ensure that the needy and lower-income households are the ones who would gain access to the medicine.
- Moreover, due to the shortage, black markets, where sellers ignore the government's price restrictions, and sell the good illegally at a price higher than the maximum price, could arise. In some cases, it is possible for the black market price to be even higher than the free market price. When this occurs, the price ceiling actually harms consumers, which is the opposite of the intended aim of the policy.
- To effectively deter black market activities, the government would need to ensure monitoring and enforcement efforts are effective, which would incur substantial costs and incur a strain on the government budget. A government would hence need to consider its ability to prevent black market activities before imposing a price ceiling.

Argument 2: A government would consider the benefits and costs of imposing a price floor

- One factor that governments consider when imposing a price floor in agricultural markets would be the benefits in terms of protecting the prices of the agricultural produce and farmers' incomes, hence improving equity.
 - A price floor is a legal minimum price on which a good can be sold. To be effective, it needs to be set above the market equilibrium price.

Figure 2: Effects of a price floor



- Initially, the free market equilibrium price and quantity is P^* and Q^* respectively. When a price floor is imposed in the market for rice, the price of rice increases to P_{min} . Farmers benefit from the higher price paid for rice, and their incomes are protected. The producer surplus increases from area $0P^*E$ to area $0P_{\text{min}}F$. This improvement in equity is one consideration of governments when imposing a minimum price in the rice market.
- However, governments would also need to consider the costs and sustainability of a price floor.
 - At P_{min} , consumers bear the cost of paying a higher price for rice, and there is a loss of consumer surplus from area AEP^* to area ABP_{min} .
 - At P_{min} , the quantity demanded decreases to Q_d but the quantity supplied rises to Q_s resulting in a surplus of $Q_s - Q_d$ units.
 - To prevent the surplus from depressing prices, a government would need to buy up the surplus. This means that the government would incur an expenditure equivalent to area Q_dBFQ_s . This would put a strain on the government's fiscal budget.

Any two of the following explanations would suffice:

- Governments which have set a minimum price on rice include China, Thailand, and India. For countries like Thailand and India, the high expenditure required to support the price floor would be a significant constraint because of their budget deficits. Hence, the sustainability of the price floor would be an important consideration of these governments.

- In addition, a price floor may result in the unintended consequence of farmers being complacent as their incomes are being protected. As such, famers may not keep their costs low, and have less incentives to engage in R&D to innovate to reduce costs of production, reducing productive and dynamic efficiency.
- Because the price signal is distorted with the imposition of a price floor, the price no longer serves as an accurate signal for the effective market demand. In more serious cases, the higher prices from the price floor may discourage firms from producing alternative goods which they could produce more efficiently or which are in higher demand, but nevertheless have a lower (free-market) price. This would result in the unintended consequence of allocative efficiency, where the combination of goods produced are not the most desired by society.

Note:

- Alternatively, students can also consider an analysis of the imposition of a minimum wage in the labour market.

Mark Scheme

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For an answer that: <ul style="list-style-type: none"> ● provides a rigorous analysis of the benefits and cost considerations of governments when imposing both a price ceiling and price floor in different markets, and ● illustrates with relevant examples. 	8 - 10
L2	For an answer that: <ul style="list-style-type: none"> ● lacks a rigorous analysis of the considerations of governments when imposing price controls in different markets OR a rigorous answer that is not balanced; did not consider both benefit and cost considerations or did not analyse both a price ceiling and price floor in different markets, and ● shows limited/no use of relevant examples. 	5 - 7
L1	For an answer that shows some knowledge of price controls and/or why governments impose price controls. Answer may contain conceptual errors in the diagrammatic analysis of a price ceiling or price floor.	1 - 4

(b) Assess the view that the main use of government subsidies is to achieve an efficient allocation of resources in markets. [15]

Question Interpretation

Command word/phrase	Assess the view	To make a judgment on the main use of government subsidies and hence the validity of the view
Content	<i>main use of government subsidies</i>	Present the different uses of government subsidies. Besides to achieve microeconomic goals of efficiency and equity, macroeconomic goals should also be analysed.
	<i>efficient allocation of resources</i>	Allocative efficiency; where $MSB = MSC$ for society or $P = MC$ for firms
Context	<i>markets</i>	No specific context; to illustrate with real-world examples

A relevant response would require students to discuss the different uses of government subsidies, going beyond the microeconomic goal of achieving allocative efficiency, before making a judgement on the main use of government subsidies. For sufficient scope in the discussion, students would need to discuss how government subsidies are also used to achieve macroeconomic goals as well.

Introduction

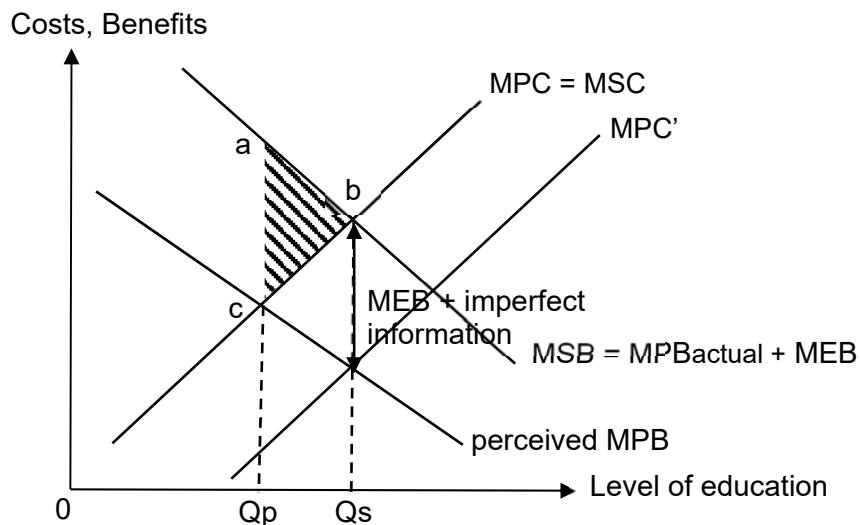
- Government subsidies, in particular, indirect subsidies, can be defined as an amount of money given by the government for each unit of the good that is produced or consumed.
- While subsidies may be given to achieve allocative efficiency and maximise society's welfare, government subsidies can also be used to attain macroeconomic goals like economic growth.

Thesis: Government subsidies can be used to achieve allocative efficiency

- Government subsidies given to increase the consumption of merit goods to the socially optimal level can be used to achieve allocative efficiency.
- An example of a merit good is education, where the government deems it socially desirable, and believes will be under-consumed if left to the free market. For education, the presence of positive externalities, the positive spillover effects on third parties not involved in the economic activity, and imperfect information, both contribute to the underconsumption of education.
- The consumption of education generates positive externalities as third parties like the employers of educated individuals are likely to benefit from increased productivity. Also, consumers may under-estimate the actual marginal private benefits (MPB) that they could gain from receiving higher education levels. They may perceive the gains in terms of future salary earnings to be lower than they are.
- Diagrammatically, the marginal social benefit (MSB) of education exceeds the MPB by both the amount of marginal external benefit (MEB) and the imperfect information as shown in Figure 3.
- Self-interested consumers would weigh only their perceived MPB and MPC and consume Q_p units of education. However, every unit of consumption between Q_p and Q_s generates greater net benefits, and there is deadweight loss as depicted by the shaded area abc due to the underconsumption of education.

- The price mechanism fails to bring about a socially efficient allocation of resources as the benefits to employers and true private benefits are not factored in the decision-making in the consumption of education. From society's perspective, there is over-pricing of education in the private market.
- A government subsidy equivalent to the MEB and imperfect information at Q_s can lower the cost of consumption, shifting MPC down by the amount of the subsidy to MPC'. This will lower the price of education, and increase the consumption of education to Q_s where the perceived MPC intersects the MPC'. As the consumption of education increases to the socially optimal level, the deadweight loss is eliminated and allocative efficiency is achieved.

Figure 3: Education, a merit good



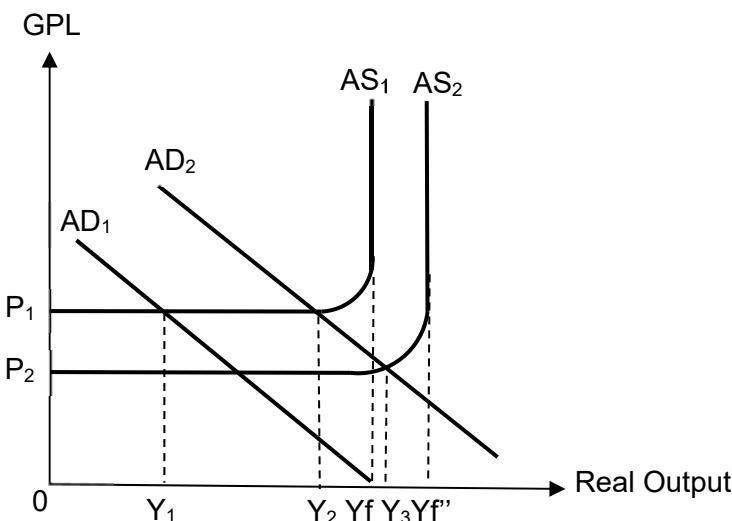
Notes:

- The focus of the analysis is on how the use of government subsidies can increase consumption to Q_s , and not how the market failure arises.
- Alternatively, students can also analyse how subsidies to reskill workers to alleviate occupational immobility and achieve allocative efficiency in the labour market as their thesis argument.

Antithesis 1: Government subsidies can be used as a form of protectionist measure

- In addition to achieve allocative efficiency in markets, government subsidies are also used as a form of protectionist measure to achieve higher actual economic growth.
- In China for instance, government subsidies are given to solar panel producers to lower their costs of production. With an increase in expected profits, this incentivises solar panel producers to increase their supply, leading to lower prices. The lower prices of Chinese produced solar panels make them more price competitive in the global market, which will stimulate China's export revenue, assuming that demand for solar panels is price elastic. As net exports, a component of aggregate demand (AD) increases, this can trigger a multiplier effect and lead to a multiplied increase in the real national income of the Chinese economy assuming that there is spare capacity.
- As seen in Figure 4, the increase in AD from AD_1 to AD_2 increases real output from Y_1 to Y_2 . As production levels increase, the derived demand for labour also rises, and demand-deficient unemployment falls from $Y_f - Y_1$ to $Y_f - Y_2$.
- Hence government subsidies can also be used to achieve higher actual economic growth and lower demand-deficient unemployment.

Figure 4: Sustained economic growth



Antithesis 2: Government subsidies can also be used to reduce cost of production and increase productive capacity to achieve sustained growth

- In addition, government subsidies can also be used as a form of supply-side policy. For instance, subsidies can be given to incentivise producers to undertake greater research and development (R&D) to lower their production costs and improve the quality of their capital.
- In Singapore, the recent Productivity Solutions Grant (PSG) serves to support more firms by subsidising their innovation efforts. If successful, the subsidies can lower production costs and increase the productivity of firms, allowing them to produce more using the same amount of resources. This will increase aggregate supply (AS) from AS₁ to AS₂.
- There is higher actual economic growth as real output increases from Y₂ to Y₃, and higher potential growth as the full employment level of output increases from Y_f to Y_{f'}. Hence, economic growth is sustained.

Note:

- Students can also analyse how government subsidies can be used to (i) improve equity or (ii) to alleviate income inequality to achieve inclusive growth as alternative arguments.

Evaluative conclusion:

- Government subsidies can be used to achieve a government's microeconomic objective of allocative efficiency, and also its macroeconomic objective of sustained growth.
- **[Stand]** Due to the multiple and equally important uses of government subsidies, it is unlikely that the main use of government subsidies is solely to achieve efficient resource allocation.
- **[Situation]** When there is market failure, one may argue that the main use of subsidies would be to eliminate the deadweight loss and improve allocative efficiency. For instance, as explained earlier, subsidies equivalent to the divergence at Q_s can help increase consumption to the socially optimal level, and eliminate deadweight loss. In other instances, however, such as when the economy is experiencing slow growth, government subsidies can arguably be used mainly as a form of protectionist measure to boost external demand to help governments achieve higher actual economic growth.
- **[Magnitude]** In general, the objective of governments would be to raise the standard of living of its citizens, and to do so, economic growth is paramount. As such, it is more likely

that the main use of government subsidies would be to achieve sustained economic growth rather than just to achieve efficient resource allocation in markets.

Mark Scheme

Level	Knowledge, Application / Understanding and Analysis	Marks
L3	For a rigorous and balanced answer that discusses the multiple uses of government subsidies, illustrated with relevant real-world examples.	8 – 10
L2	For an answer that provides a balanced but undeveloped discussion of the multiple uses of government subsidies. OR For an answer that provides a one-sided but rigorous analysis of how government subsidies can improve resource allocation in markets. Answer is mainly theoretical.	5 – 7
L1	For an answer that shows some knowledge of the effect of a subsidy, is mostly descriptive, and contains inaccuracies.	1 – 4
Level	Evaluation/Synthesis	Marks
E3	For an answer that arrives at an analytically well-reasoned judgement on the extent to which the main use of government subsidies is to improve resource allocation in markets.	4 – 5
E2	For a judgement based on economic analysis that makes some attempt at a judgment on the extent to which the main use of government subsidies is to improve resource allocation in markets.	2 – 3
E1	For an unexplained judgement that addresses the question, or one that is not supported by economic analysis.	1

- 3 The hotel industry in many countries is extremely diversified, ranging from fuss-free budget hotels that serve guests such as backpackers, to luxury hotels that include a wide amenity of services for guests such as business travellers.

(a) Explain the different economies of scale present in the hotel industry. [10]

(b) Assess whether profit maximisation should always be the goal of different hotels. [15]

(a)

Question Interpretation

Command word/phrase	<i>Explain different</i>	Elaborate on a particular concept. This command word hints that a need for a scope of a variety of EOS
Content	<i>economies of scale</i>	To get scope, focus should be on a broad scope of <i>internal and external EOS</i>
Context	<i>hotel industry</i>	Focus should be on the hotel industry, which has been introduced in the preamble.

This response requires students to explain how different types of economies of scale are relevant to the hotel industry. Students should show an ability to apply both internal and external economies of scale to the context of hotels.

Introduction

- There are two key types of economies of scale (EOS) – internal EOS and external EOS.
 - Internal EOS can be defined as the fall in unit costs for a firm as **the firm** expands in size. This is illustrated in a firm's diagram with a downward movement along the LRAC curve.
 - External EOS can be defined as the fall in unit costs for a firm as **the industry** expands in size. This is illustrated in a firm's diagram with a downward shift of the LRAC curve.

Body

- Explain the internal economies of scale present in the hotel industry.
- One form of internal EOS is that of technical economies.
 - As a hotel expands its production (e.g. have more rooms etc.), there will be more workers employed and therefore there can be a greater scope for specialisation in the area of hotel operations. For example, there can be workers who specialise in guest relations, others who specialise in the preparation of food and others who specialise in cleaning of rooms.
 - With a large number of guests, certain elements of a hotel that are indivisible can be justified, such as a swimming pool. With more hotel guests, the unit cost of installing and maintaining a swimming pool would fall as the high total costs will be spread out over a larger number of guests.
 - There can also be managerial economies in the hotel industry.
 - A large hotel chain can justify the hiring of specialised managers, advertising staff, accountants, etc. Delegation of responsibility enables the top management to focus on long term strategic planning, which can lower unit costs over time.
 - Finally, there can be marketing economies present in the hotel industry.
 - A large hotel chain can potentially enjoy economies of scale by advertising for several hotels with the same advertisement. The cost of the advertisement space will likely not differ based on the number of brands it puts in a given space, but if the chain is able to

market several of its hotels with one advertisement, there can be a fall in unit cost as the large advertising outlay is spread over several hotels.

Notes:

- Approximately 2 well elaborated different internal economies of scale in the hotel context would suffice for students to show adequate understanding of this concept.
- Instead of the above examples, students can choose to bring in other examples such as financial economies and economies of scope as well, as long as they are reasonably applied to the hotel industry,

2. Explain the external economies of scale present in the hotel industry.

- Firstly, hotels can enjoy economies of concentration.
 - When several hotels group together in an area, there might be specialised services that arise to support their functions. For example, laundry businesses might set up in the hotel cluster. The laundry services would enjoy their own internal economies of scale as they are able to sell to a large number of hotels. This translates to a fall in unit costs for all the hotels, simply because they had grouped together in a cluster.
- Secondly, hotels can enjoy economies of information.
 - When the industry expands in a country, there is more incentive for specialised research facilities to be set up. This can be by private entities or by the government. For example, in Singapore, the hotel industry is one of the targeted industries in the Industrial Transformation Maps (ITMs) that are being rolled out by the Singapore Government. This only happened because the industry is large enough such that it employs a significant number of workers. This would incentivise the government to dedicate resources to study and propose recommendations for the industry to make it more competitive, reducing unit costs.

Note: Compared to internal EOS, there is likely less variety of external EOS examples to analyse. It is ok to have an essay that is more focused on internal EOS, but external EOS must be captured in at least 1 paragraph.

Mark Scheme

Level	Knowledge, Application / Understanding and Analysis	Marks
L3	For a rigourous answer <ul style="list-style-type: none"> that analyses a range of different types of EOS, with a focus on both internal and external EOS. with good application to the hotel context, in the form of contextualised examples. 	8 - 10
L2	For an underdeveloped answer <ul style="list-style-type: none"> that analyses only internal or external EOS, with good application to the hotel context, OR that analyses both internal and external EOS, but with a lack of rigour or scope of examples. For an answer that only explores external EOS, max 5m	5 - 7
L1	For an answer that shows some knowledge of EOS and the hotel industry.	1 – 4

(b) Assess whether profit maximisation should always be the goal of different hotels.**[15]**Question Interpretation

Command word/phrase	<i>Assess whether always...different</i>	Present different perspectives of the view and evaluate the validity of the view These command words hint about potential evaluative angles. If you can question that <i>different</i> hotels may not <i>always</i> profit maximise, you might have an evaluative angle.
Content	<i>profit maximisation goal of different hotels</i>	Students should analyse profit maximisation as a goal for hotels and when the goal might differ for different hotels.
Context	<i>different</i> hotels	Based on the preamble, it is useful to consider hotels which are more oligopolistic in nature vs hotels which are more monopolistically competitive in nature.

A good response would consider hotels in two different types of market structure – monopolistic competition and oligopoly. By taking into account the types of profits present in both market structures, students should arrive at an understanding that profit maximisation is more crucial for hotels who are more monopolistically competitive than those who are more oligopolistic. For those who are oligopolistic, with supernormal profits, they could have other goals such as revenue and sales maximisation.

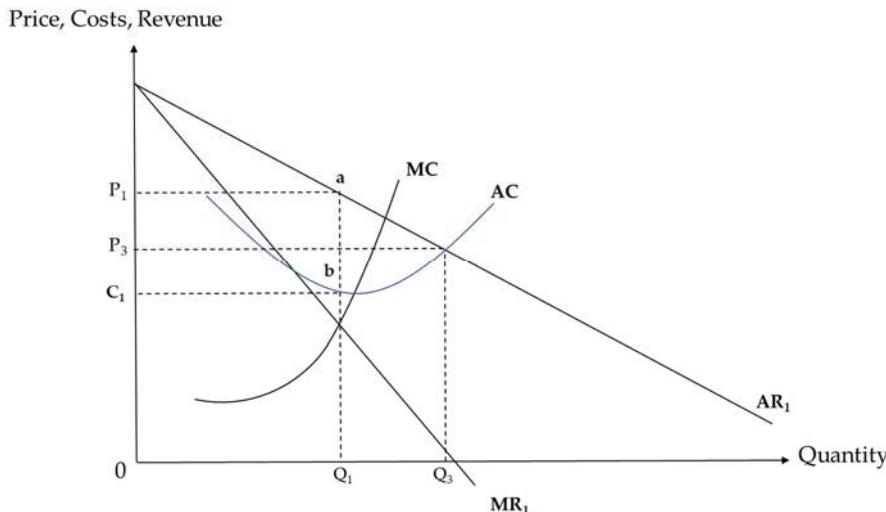
Introduction

- Profit maximisation as a goal can be analysed by taking into account the market structure that hotels are in.
- As mentioned in the preamble, there is a range of hotels present in the hotel industry.
 - Budget hotels are likely to face lower barriers to entry, as they only provide basic services that are easier to replicate. As such the market structure that they are likely to be in is monopolistic competition.
 - Luxury hotels are more likely to be in an oligopolistic market structure, as luxury hotel industry would have more barriers to entry, e.g. strong reputation from years of marketing, membership schemes etc., that potential entrants would find difficult to overcome.

Body***Thesis: Profit maximisation should be the goal of different hotels***

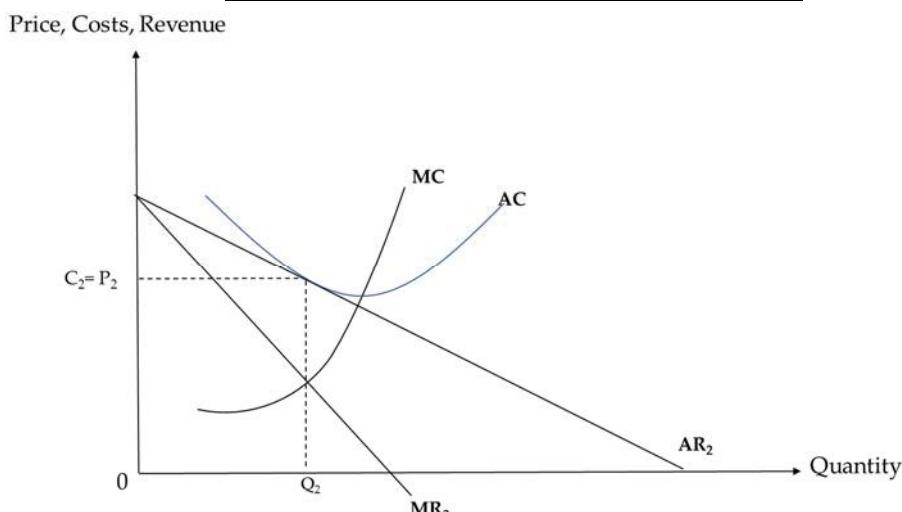
- Hotels will maximise their profits in pursuit of their self-interest, assuming that they are rational. Regardless of the market structure, hotels will be interested in maximising profits to maximise their self-interest by producing at a quantity where marginal revenue (MR) is equal to marginal costs (MC). In the short run, both budget and luxury hotels could be able to earn supernormal profits as shown in Figure 1 below.

Figure 1: Short Run Profits for Hotels



- As shown in Figure 1 above, in the short run, both budget and luxury hotels would produce where $MC = MR_1$ and earn a supernormal profit of P_1abC_1 .
- Profit maximisation is especially pertinent for budget hotels in the long run. As can be seen in Figure 2 below, due to the low barriers to entry in the budget hotel industry, it is very likely that more budget hotels would enter the market when they notice supernormal profits present in the industry in the short run. As such, for the budget hotel industry, their AR is likely to drop to AR_2 and MR_2 in Figure 2 below, until only normal profits are earned by budget hotels in the long run, where $P_2 = C_2$.

Figure 2: Long Run Profits for Budget Hotels



- From Figure 2, should the budget hotel produce at a quantity that is larger or smaller than Q_2 , it would earn subnormal profits and will leave the industry. As such, profit maximisation is the goal for budget hotels in the long run.

Anti-thesis: Profit maximisation may not be the goal for some hotels.

- Unlike budget hotels, luxury hotels who are oligopolistic will be able to retain their supernormal profits of P_1abC_1 in Figure 1 in the long run due to relatively higher barriers to entry present in that industry.
- As such, firms in the luxury hotel industry may not always seek to maximise profits for several reasons.
 - First, luxury hotels may be interested in increasing their market share and may engage in both price and non-price competition that could erode their profits.
 - For example, a luxury hotel who is keen to woo more customers may lower prices to P_3 in Figure 1. This would increase their market share from Q_1 to Q_3 . However, this would not be profit maximising as at P_3 , average costs is also equal to P_3 which would mean that the firm is earning only normal profits when it could have been charging P_1 at quantity Q_1 to earn supernormal profits.
 - Oligopolistic firms may also engage in a high degree of non-price competition such as advertisements to increase their AR and MR over time. However, this would increase AC for the same level of production in the short run, which would result in the firm earning less profits than the maximum that it could've earned without non-price competition.
 - Second, as luxury hotels would often exist in chains, the managers of each hotel may not necessarily be the owner(s) of the chain, especially for hotel chains that are publicly listed. In such cases, the owners are the shareholders (principals), who in turn employ professional managers (agents) to run the hotels. Such separation of control (management) and ownership is known as the principal-agent problem. The hotel managers (agents) may thus have a profit satisficing goal, which is to aim for a reasonable level of profit good enough to keep the owner(s) satisfied, instead of seeking to maximise profits.
 - [Situation] However, it should be noted that this is less likely in certain firms where managers are given shares to the hotel chains as well. As such, profits earned from the hotel would also increase the value of their shares and managers will therefore have a greater incentive to profit maximise for the hotel chain as well.

Evaluative conclusion

- **[Time Frame + Magnitude]:** As argued in this essay, in the short run, both budget and luxury hotels are likely to have profit maximisation as their goal.
 - However, in the long run, it is more likely for budget hotels (who are in a MC industry) to have the goal of profit maximisation than luxury hotels, who are more likely to be oligopolistic in nature.
 - This is because budget hotels are required to maximise their profits simply to survive in the industry, whereas luxury hotels may not always maximise profits as they usually have past supernormal profits to fall back on if they choose to pursue alternative objectives.
- **[Assumption + Time Frame]** However, one can easily assume that the alternative strategies discussed such as market share maximisation are in fact done with the aim of profit maximisation in the very long run. For example, once a firm gains sufficient market share from its competitors with the use of price competition, it would revert to its profit maximisation price. Therefore, the core goal for hotels can still be argued to be profit maximisation.

Mark Scheme

Level	Knowledge, Application / Understanding and Analysis	Marks
L3	For a rigorous and balanced answer that analyses different types of hotels and the relevance of profit maximisation and alternative strategies as their goals.	8 – 10
L2	For an underdeveloped answer that <ul style="list-style-type: none"> • does not analyse an adequate scope of goals beyond profit maximisation for different hotels, OR • analyses a scope of goals for different hotels but with a lack of rigour and conceptual accuracy, OR • analyses a scope of goals with rigour but with a lack of application to the hotel industry. 	5 – 7
L1	For an answer that is mostly descriptive, with some inaccuracies and is not in context.	1 – 4
Level	Evaluation/Synthesis	Marks
E3	For an answer that arrives at a reasoned judgement on whether profit maximisation is <i>always</i> the goal for <i>different types</i> of hotel. Students have to be sensitive to the key command words in the question to achieve this evaluation score.	4 – 5
E2	For a judgement based on economic analysis and makes some attempt at questioning whether profit maximisation will always be the goal for different types of hotels.	2 – 3
E1	For an unexplained judgement, or one that is not supported by economic analysis	1

- 4 Assess the extent to which trade-offs between different macroeconomic objectives is the main reason why governments pursue a mix of macroeconomic policies. [25]**

Question Interpretation

Command word/phrase	<i>Assess the extent to which Main reason</i>	Analyse different perspectives of an issue and make a judgement on how far a statement is true Compare with other possible reasons
Content	<i>Trade-offs between different macroeconomic objectives</i> <i>Pursue a mix of macroeconomic policies</i>	Negative unintended consequences of macroeconomic policies causing conflicts between macroeconomic aims Demand-side and supply-side policies Short-run and long-run policies
Context	<i>Governments</i>	No specific context; to illustrate with examples of situations or countries

A relevant response requires students to first explain how the use of policies to achieve one macroeconomic aim may conflict with the other aims of the government. The analysis then needs to bring in how the trade-offs may be mitigated with other macroeconomic policies, thus necessitating “a mix of macroeconomic policies”. To provide a balanced perspective of the statement, the answer needs to consider other reasons why governments may adopt a combination of policies. Finally, an evaluative judgement on the extent to which governments pursue a mix of policies due to trade-offs between the macroeconomic aims is required.

Introduction

- Governments aim to achieve the goals of economic growth, full employment, price stability and a favourable balance of payments position.
- In achieving these aims, governments could adopt demand-management and supply-side policies. However, negative unintended consequences in the form of conflicts with other macroeconomic aims may sometimes arise, causing governments to adopt a combination of policies to address the trade-offs.
- This essay will argue that besides trade-offs between macroeconomic objectives, there are also other reasons why governments may pursue a mix of policies, before evaluating whether it is the main reason for a mix of policies.

Body

Thesis: Trade-offs between macroeconomic objectives is a reason why governments pursue a mix of macroeconomic policies

1. Explain how trade-off between actual growth/full employment and price stability may require a mix of policies
- A government may adopt expansionary demand-management policies (e.g. fiscal or monetary policy) to stimulate actual growth and reduce demand-deficient unemployment in an economy. However, this may result in demand-pull inflation, thus conflicting with the aim of price stability.

- For instance, a government may adopt expansionary fiscal policy to increase AD in the economy by increasing government expenditure and/or reducing direct taxes. The reduction in personal income tax raises disposable income and boosts consumption expenditure, while the cut in corporate tax raises post-tax profits of firms and encourages investment expenditure. In Figure 1, the resultant increase in AD from AD_1 to AD_2 causes national income to increase by a multiplied amount from Y_1 to Y_2 due to the multiplier process, thus achieving actual growth. Derived demand for labour also increases as firms increase their production, hence reducing demand-deficient unemployment.
- However, if AD continues to increase while the economy approaches full employment, the general price level may rise persistently (i.e. from P_1 to P_2 to P_3), leading to a situation of demand-pull inflation. This conflicts with the aim of price stability.
- To address the trade-off with price stability, governments could complement the expansionary demand-management policies with supply-side policies to boost the country's productive capacity. As the economy's AS increases and shifts to the right, inflationary pressures are dampened as GPL falls from P_3 to P_2 . Such supply-side policies may take the form of skills-upgrading programmes to increase productivity of workers, or grants to encourage firms to engage in R&D to improve the quality of capital goods.

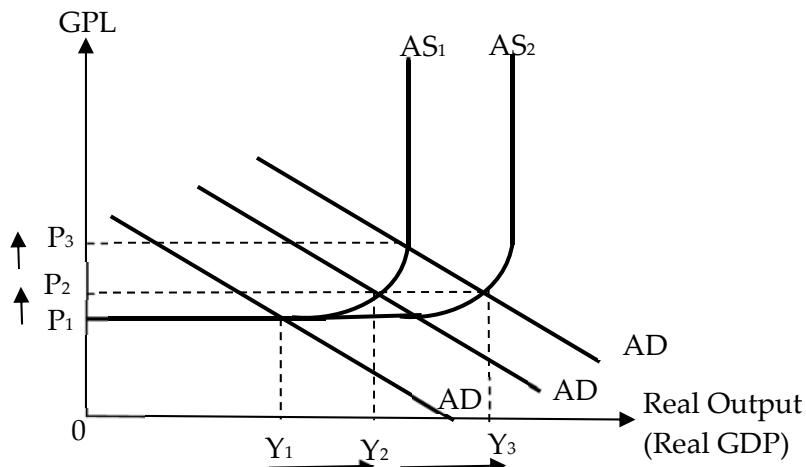


Figure 1: Demand and Supply-side policies to manage trade-off

2. Explain how trade-off between actual growth/full employment and a favourable BOP may require a mix of policies
 - The use of expansionary demand-management policies to increase AD and achieve actual growth and full employment may also conflict with the aim of a favourable BOP position. The increase in national income due to the increase in AD, causes consumption expenditure to increase, part of which may be spent on imported goods and services. This increase in demand for imports leads to a rise in import expenditure which causes a worsening of the current account, which may conflict with the aim of maintaining a favourable BOP position.
 - To mitigate this trade-off between actual growth and a favourable BOP position, governments could adopt supply-side policies to complement the use of expansionary demand-management policies. For instance, the government could provide subsidies to encourage local export-oriented firms to invest in R&D or training of workers so as to achieve increased productivity in the export industries. This can lead to lower unit cost of production and hence increase the price competitiveness of the country's exports. If

demand for the country's exports is price elastic, export revenue increases, which improves the current account and BOP.

Anti-thesis: There are other reasons why governments pursue a mix of macroeconomic policies (at least 2 other reasons)

1. *Explain how constraints faced by the government may be a reason for a mix of policies*
 - Due to constraints faced by a government, a mix of policies may be needed to effectively achieve a macroeconomic objective. In adopting macroeconomic policies, governments may face several constraints depending on the state and nature of the economy. Such constraints include budget constraint, a small multiplier size, and liquidity trap.
 - If a government is already facing a budget deficit, there may be limited scope to implement expansionary fiscal policy to stimulate growth and employment in times of recession. Increasing government spending further or reducing direct taxes will worsen the budget position. Similarly, if an economy has a small multiplier size due to high withdrawals in the form of savings or import expenditure, i.e. large marginal propensity to save (MPS) and marginal propensity to import (MPM), a very large increase in government expenditure or cut in direct taxes may be required to increase AD and national income by a desired amount. Relying on expansionary fiscal policy alone to achieve actual growth and reduce demand-deficient unemployment may not be sufficient. Hence, governments could complement with either expansionary monetary policy (i.e. reduce interest rates or depreciate the exchange rate) to further increase AD, or supply-side policies to lower cost of production and increase AS so as to increase real output further.
 - In times of deep recessions, when interest rates are already very low, the economy may be facing a liquidity trap. Expansionary monetary policy through reducing interest rates may no longer be effective. Any rise in money supply to reduce interest rates will only result in extra liquidity being kept in idle balances as firms and households are unwilling to spend. In this case, to provide a direct boost to AD, governments may complement with expansionary fiscal policy where the increase in government expenditure directly increases AD and national income.
2. *Explain how time lags of policies may be a reason for a mix of policies*
 - As some policies may take a long time to take effect, governments may decide to complement them with policies that have a shorter time lag.
 - In reducing a current account deficit, supply-side policies to increase productivity and boost export competitiveness may be adopted to increase export revenue. However, it takes time to raise the productivity of labour and capital. In the meantime, governments may devalue the currency. With a weaker currency, exports are cheaper in terms of foreign currency while imports are more expensive in terms of local currency. Assuming Marshall-Lerner condition holds (i.e. $|PED_x + PED_m| > 1$), net export revenue increases, causing the current account to improve. This policy has a shorter time lag, and may be adopted in the short run to reduce a current account deficit, while time is given for productivity in the export sectors to improve in the long-run.
 - Another example is the use of protectionist measures and skills retraining to reduce structural unemployment caused by international trade. While skills retraining may address the root cause of structural unemployment, i.e. the mismatch of skills between the unemployed workers and those required by the jobs, it takes time for workers to acquire new skills. In the meantime, temporary protectionist measures may be adopted to allow sunset industries to decline slowly, hence reducing the extent of structural

unemployment by allowing more time for the expanding sectors to retrain and absorb the displaced workers.

3. *Explain how the presence of multiple macroeconomic problems may be a reason for a mix of policies*
- When an economy faces multiple macroeconomic problems, a combination of policies will be needed to address them.
 - For instance, with international trade, a country's loss in comparative advantage in its exports can lead to reduced actual growth due to a fall in net exports. In addition, as workers in the declining industries may not have the skills to find jobs in the other sectors, structural unemployment could result. A government faced with the problems of reduced actual growth and structural unemployment, may decide to adopt a combination of expansionary demand-management policies to boost AD and growth, and supply-side policies in the form of skills retraining to reduce structural unemployment.

Evaluative conclusion

- **[Situation]:** Whether trade-offs between different macroeconomic objectives is a reason why governments pursue a mix of macroeconomic policies largely depends on the state and nature of the economy. In particular, trade-offs between macroeconomic aims could be a reason for a policy mix if the economy is producing near/at full employment or if the economy has a high degree of openness.
 - If the economy is producing below the full employment output level, increasing AD to stimulate growth will not give rise to inflationary pressures. Hence, the trade-off only occurs if the economy is near/at full employment.
 - **[Magnitude]:** Likewise, if the economy is not highly import-dependent, increasing AD to stimulate growth may not increase import expenditure and worsen the BOP by a large extent. Hence, the trade-off may not be a main reason for a mix of policies, as compared to an economy that is import dependent and with a high degree of openness.
- **[Assumption & Magnitude]:** The assumption made is that governments prioritise all macroeconomic objectives equally and strive to achieve all of them concurrently. Hence, when there are trade-offs, governments would adopt a combination of policies to achieve both aims. However, in reality, given the constraints faced (e.g. budget constraint), governments usually prioritise one aim over the other depending on the severity of the macroeconomic issues.
 - For instance, in a severe recession, the priority is to boost actual growth and reduce demand-deficient unemployment. Even if inflationary pressures were to result from the use of expansionary demand-management policies, governments may not adopt supply-side policies to increase productive capacity, if it is already facing a tight budget and if the inflation is not likely to be severe.
- **[Stand]:** In my opinion, since governments tend to prioritise its macroeconomic objectives, trade-offs between the macroeconomic aims may not be the main reason why governments pursue a mix of policies. Rather, a combination of policies is more likely to be adopted to increase the success of achieving a particular aim instead. Hence, constraints and time lags of policies could be more important reasons for why governments pursue a mix of policies.

Mark Scheme

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For a balanced and rigorous answer <ul style="list-style-type: none"> • that explains clearly how trade-offs between macroeconomic objectives and other reasons may account for why governments pursue a mix of policies, • with clear explanation of how a combination of policies can help manage the trade-offs. 	15 - 20
L2	For an underdeveloped answer <ul style="list-style-type: none"> • that does not give sufficient focus to how trade-offs between macroeconomic objectives may account for a mix of policies, and/or how other reasons may account for a mix of macroeconomic policies, and/or • lacks a clear explanation of how a combination of policies can help manage the trade-offs. 	9 - 14
L1	For an answer that shows some knowledge of how trade-offs between macroeconomic objectives may account for a mix of policies, but with a lack of accurate economic analysis in the explanation.	1 - 8
Level	Evaluation/Synthesis	Marks
E3	For an answer that uses economic analysis to support an evaluative conclusion on the extent to which trade-offs between macroeconomic objectives is a main reason for a mix of policies. Strong evaluative statements would recognise that the extent to which trade-offs is a main reason for a policy mix may depend on the state and nature of the economy.	4 – 5
E2	For an answer that makes some attempt at an evaluation on the extent to which trade-offs between macroeconomic objectives is a main reason for a mix of policies, with a lack of justification or poor use of economic analysis.	2 – 3
E1	For an answer that gives an unsupported evaluative statement(s) that addresses the question.	1

5 The Singapore government aims to achieve a low rate of inflation and a favourable balance of payments position. To achieve a low rate of inflation, the Singapore government has implemented macroprudential policies such as limitations on the amount of loans available for households to purchase vehicles and properties.

(a) Explain the consequences of failing to achieve the above aims. [10]

(b) Discuss whether the use of macroprudential policies is the most effective method to achieve a low rate of inflation in Singapore. [15]

(a)

Question Interpretation

Command word/phrase	<i>Explain</i>	Give clear reasons or make clear the meaning of, use examples and explain the theory behind the question
Content	<i>Consequences of failing to achieve these aims (low rate of inflation and a favourable BOP position)</i>	Negative impact of failing to achieve a low rate of inflation and negative consequences of having a persistent BOP deficit and surplus
Context	-	No specific context; to illustrate with real-world examples where appropriate

Students are required to consider the negative consequences of high inflation rates and having a persistent balance of payment deficit and surplus.

Introduction

- Generally, all governments, including the Singapore government, aim to raise the living standards of its citizens. This would mean achieving the four macroeconomic goals, among which are a low rate of inflation and a favourable balance of payments (BOP) position.
- Failing to do so, there would likely be negative consequences on the economy, which would be explained in this answer.

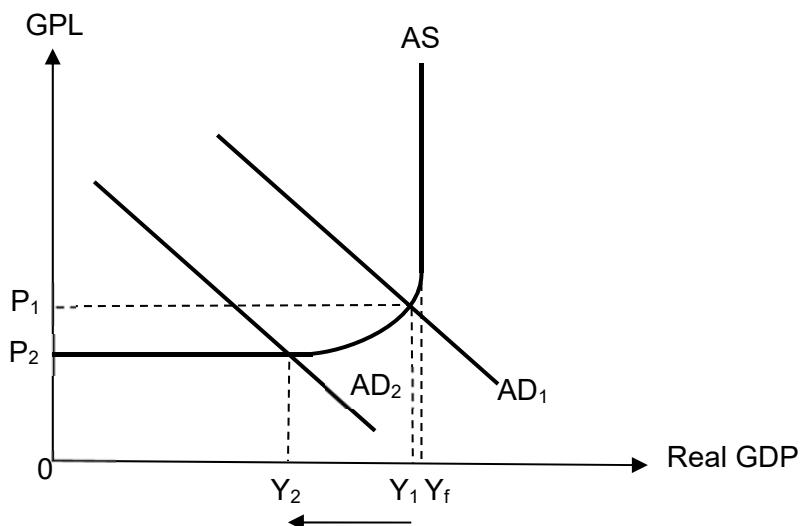
Body

Argument 1: Failing to achieve a low rate of inflation can lead to lower current and future material standard of living, negative economic growth and higher demand-deficient unemployment

- Where there is high inflation, a sustained and excessive (inordinate) increase in the general price level (GPL) of goods and services in the economy, current and future material living standards of households would be adversely affected, and there could be negative economic growth.
 - High inflation erodes the internal value of money, causing the purchasing power of consumers to fall. As the same amount of nominal income now buys lesser good and services, consumers' current material standard of living falls. In addition, as consumers expect prices of goods and services to rise in future, they may save less and spend more now. Lower savings imply lesser wealth to consume in future, which therefore reduces consumers' future material living standards.

- During periods of high inflation, there is greater uncertainty in the economy as changing prices make it difficult for firms to predict their future costs, expected revenues and hence profits. This can reduce business confidence and lead to firms being less willing to take the risks to undertake long-term investments. As investment expenditure (I) falls, aggregate demand (AD), which is made up of $C, I, G + (X-M)$, would also fall.
 - As seen in Figure 1, AD falls from AD_1 to AD_2 . If the economy is below full employment, output levels fall by a multiplied amount via the reverse multiplier process from Y_1 to Y_2 , causing negative growth.
 - At the same time, as production level decreases, the derived demand for labour falls, increasing demand-deficient unemployment from $Y_f - Y_1$ to $Y_f - Y_2$.

Figure 1: Negative economic growth and rise in demand-deficient unemployment



Argument 2: A persistent BOP deficit can result in higher imported inflation

- The BOP of a country records the international transactions of a country with the rest of the world over a period of time, usually a year. Failure to achieve a favourable BOP position can mean either a persistent BOP deficit or a persistent BOP surplus, both of which can lead to negative consequences.
- For Singapore, an economy with a high reliance on imports due to its lack of resources, a persistent BOP deficit can lead to imported inflation. This is because a persistent BOP deficit exerts a downward pressure on the country's exchange rate.
- When there is a persistent BOP deficit, the combined outflow of a country's currency in the current account and capital and financial account is more than the combined inflow in both accounts. This implies that there is a surplus of the country's currency. At the prevailing exchange rate, the quantity supplied of domestic currency is larger than the quantity demanded. For Singapore which is operating on a managed float exchange rate system, the surplus will cause the Sing dollar to depreciate if the Central Bank does not intervene in the market.
- When the Sing dollar depreciates, prices of imported raw materials and consumer goods will increase. The increase in the price of imported inputs will increase the cost of production of goods and services, leading to a decrease in aggregate supply (AS) and increase the GPL, causing imported inflation. As imported consumer goods become less affordable, households' living standards fall as well.

Argument 3: A persistent BOP surplus can lead to possible retaliation by countries with BOP deficits and demand-pull inflation

- Failure to achieve a favourable BOP position can also imply a large and persistent BOP surplus, which can lead to possible retaliation from deficit countries and demand-pull inflation. A BOP surplus means that the combined inflow is larger than the outflow from both accounts.

One of the following analysis would suffice:

- Because the BOP must balance for the world as a whole, a large and persistent BOP surplus for one country would be at the expense of another country's persistent BOP deficit. As such, a country with a large and persistent BOP surplus may face retaliation from deficit countries. One such example is the US-China trade war. As China's trade surplus with the US continues growing (forming a new record at \$31 billion), this has provoked the US to retaliate and start a trade war by slapping tariffs on Chinese goods (handbags, semiconductors, solar panels, steel). These tariffs would increase the price of imported goods from China to US, reducing the price competitiveness of Chinese goods. As export revenue for China falls, the fall in net exports ($X-M$) would reduce AD and lead to lower growth for China.

OR

- If a BOP surplus is caused by an increase in net export revenue, this is an injection into the economy which will increase the AD. Via the multiplier effect, this will lead to a multiplied increase in the national income if there is spare capacity. However, for Singapore which is near full employment level, a large and persistent BOP surplus will likely lead to demand-pull inflation, where the GPL rises with little or no increase in real output.

Mark Scheme

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	<p>For an answer that:</p> <ul style="list-style-type: none"> provides a rigorous analysis and good scope of the negative consequences of high inflation and a balance of payments disequilibrium (surplus and deficit), and illustrates with real-world examples <p>Answer to be capped at 8m if either a budget deficit OR surplus was analysed.</p>	8 - 10
L2	<p>For an answer that:</p> <ul style="list-style-type: none"> lacks a rigorous analysis of the negative consequences of high inflation and a balance of payments disequilibrium, OR lacks sufficient scope – only analyses the negative consequences of high inflation or a balance of payments disequilibrium, OR arguments are repetitive and shows limited/no use of relevant examples. 	5 - 7
L1	<p>For an answer that shows some knowledge of the negative consequences of high inflation and/or a balance of payments deficit, but may contain conceptual errors.</p>	1 - 4

(b) Discuss whether the use of macroprudential policies is the most effective method to achieve a low rate of inflation in Singapore. [15]

Question Interpretation

Command word/phrase	<i>Discuss whether</i>	To make a judgment on effectiveness of macroprudential policies to achieve a low rate of inflation in Singapore
Content	<i>Macroprudential policies</i>	In the preamble, these macroprudential policies refer to “limitations on the amount of loans available for households to purchase vehicles and properties”.
	<i>Most effective method</i>	Present the different pros and cons of macroprudential policies against other policies
	<i>Low rate of inflation</i>	Price stability; management of demand-pull inflation and cost-push inflation
Context	<i>Singapore</i>	Singapore-specific examples

A relevant response would require students to discuss the workings and limitations of macroprudential policies, together with other policies that the Monetary Authority of Singapore (MAS) employs to tackle inflation in Singapore, before making a judgement on whether the use of macroprudential policies is the most effective method in Singapore’s context.

Introduction

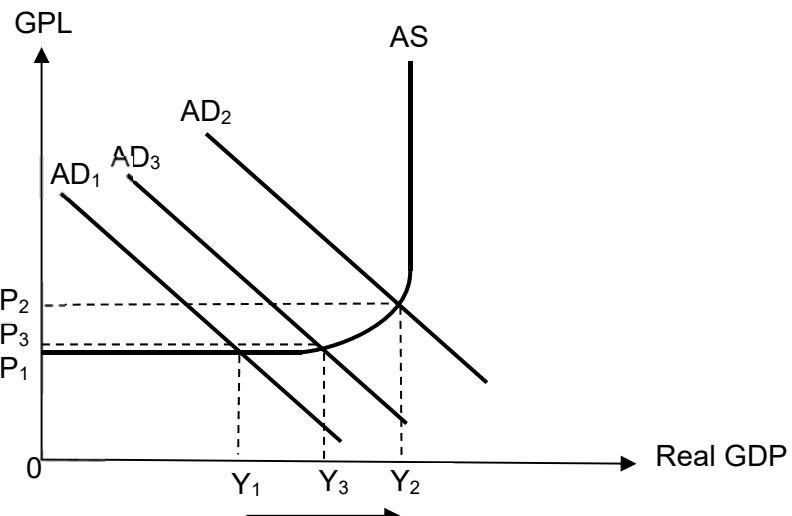
- A low rate of inflation in Singapore, or price stability, is important to maintain the standard of living of its residents. As a result, the Monetary Authority of Singapore (MAS) is vigilant against inflationary pressures and employs different measures to tackle rising inflation.
- One such measure is the use of macroprudential policies which involve placing limitations on the amount of loans available for households to purchase vehicles and properties. However, it remains to be seen if this policy is the most effective method to achieve price stability in Singapore because of the varying causes of inflation.

Body

Thesis: Macroprudential policies are effective in reducing the demand for vehicles and properties, hence tackling demand-pull inflation, but have their limitations

- The use of macroprudential policies as mentioned in the preamble can be effective to reduce the demand for vehicles and properties, hence tackling demand-pull inflation.
- When there is persistent demand for private vehicles and strong speculative demand for residential properties, the consumption expenditure (C) rises, leading to an increase in AD.
 - With Singapore near the full employment level of output, the increase in AD from AD_1 to AD_2 is likely to result in demand-pull inflation, where the GPL rises from P_1 to P_2 as seen in Figure 2.

Figure 2: Demand-pull inflation



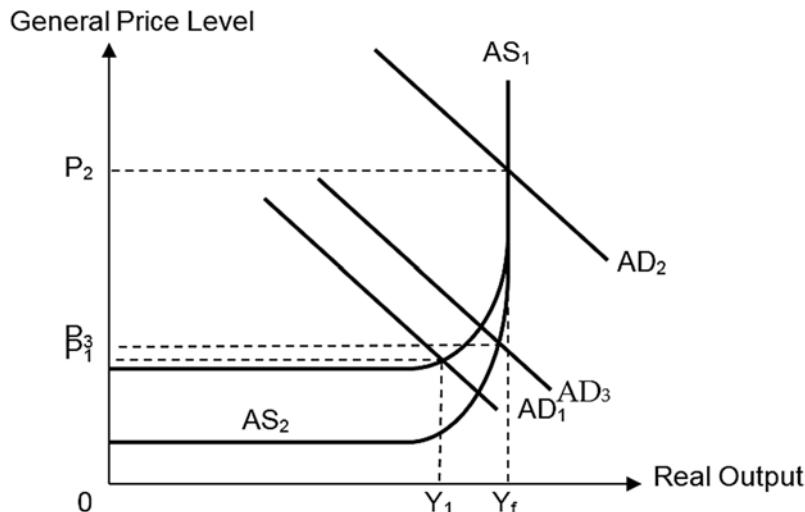
- The macroprudential policies reduce the availability of credit, making it more difficult for consumers to borrow to purchase private vehicles and residential properties, which are big ticket items. As such, they are likely to cool the demand for these items, reducing C. As C falls, AD would also fall. From the above figure, as AD falls from AD₂ to AD₃, demand-pull inflation is addressed as the GPL falls from P₂ to P₃.
- However, these macroprudential policies may have limited effectiveness to achieve a low inflation rate.
 - Residential properties are normal goods with positive YED values. In times of strong economic growth, the demand for high-end private residential property will rise more than proportionately. As such, restrictions on credit may not dampen demand sufficiently. This is especially the case when coupled with high expectations of rising property prices in the future.
 - Moreover, such policies are targeted at reducing inflation due to rising vehicle and residential property prices, and are limited in its effectiveness in tackling inflation arising from other factors such as a tight labour market and imported inflation, which are also common causes of inflation in Singapore.

Antithesis 1: Contractionary exchange rate policy can arguably be the most effective to achieve a low rate of inflation in Singapore, but may be limited in addressing inflation due to domestic factors

- A contractionary exchange rate policy can arguably be the most effective policy to achieve a low rate of inflation in Singapore because it can manage both demand-pull and cost-push inflation.
- With reference to Figure 3 below, assume that initially, the economy is experiencing demand-pull inflation, and the GPL rises to P₂.
- To achieve price stability, the MAS can intervene in the foreign exchange market to appreciate the Sing dollar against foreign currencies.
 - By selling more foreign reserves in exchange for Sing dollars, the demand for Sing dollar increases. As the domestic currency appreciates, the country's exports becomes more expensive in terms of foreign currency. This reduces the quantity demanded for exports.
 - On the other hand, imports become relatively cheaper in terms of Sing dollars. This increases the quantity demanded for imports. Assuming that the absolute sum of the price elasticities of demand for imports and exports is greater than one, i.e. the Marshall

Lerner Condition holds, an appreciation of the domestic currency would lead to a fall net exports ($X-M$). When $(X-M)$ falls, AD, which is made up of $C+I+G+(X-M)$, will fall from AD_2 to AD_3 .

Figure 3: Impact of an appreciation on the general price level



- For Singapore, an economy heavily dependent on imports as a factor of production, the appreciation of the Sing dollar would lead to a fall in the costs of production, leading to a downward shift of the AS curve from AS_1 to AS_2 . Taking these two effects together, the fall in AD and rise in AS would lead to lower inflation, with prices rising from P_1 to P_3 , instead of P_2 . As can be seen above, contractionary exchange rate policy in the form of appreciating the Sing dollar can help to manage both demand-pull and cost-push inflation.
- While contractionary exchange rate policy is effective in addressing both demand-pull and cost-push inflation, one must recognise that this policy is most effective when inflation is caused by external factors, and may be considered a blunt measure as it does not address inflation arising from domestic factors like a tight labour market.

Antithesis 2: Supply-side policies are more effective to manage wage-push inflation, but have limitations as well

- Singapore also experiences cost-push inflation in the form of wage-push inflation due to a persistent tight labour market. In such a circumstance, supply-side policies are likely to be more effective.
- A persistent tight labour market due to Singapore's ageing population and tighter restrictions on the influx of foreign labour has reduced the supply of labour, leading to a shortage and rise in wages. As wages increase, the cost of production increases, reducing AS. The fall in AS will cause GPL to increase, resulting in wage-push inflation.
- To address wage-push inflation, supply-side policies like the Wage Credit Scheme which subsidises wage increments of workers is likely more effective.
 - These subsidies will reduce firms' cost of production, encouraging them to retain workers, and increase AS. The rise in AS will cause GPL to fall, hence tackling wage-push inflation.
- However, there is a limit to the extent of subsidies that the Singapore government can offer to firms because it is constrained by its budget position. Moreover, it is not a sustainable long term solution to the persistent tight labour market that Singapore faces.

Evaluative conclusion

- **[Situation]** To effectively tackle inflation, the policies should be targeted at the root cause of inflation. Macroprudential policies are most effective to achieve a low rate of inflation in Singapore when the cause of inflation is due to rising vehicle and property prices. For other domestic causes of inflation, other measures such as supply-side policies would be more effective to tackle wage-push inflation due to a tight labour market.
- **[Situation + Magnitude]** MAS' usual stance of 'a gradual and modest appreciation of the Sing dollar' would be more appropriate to tackle inflation due to external factors. Being an open economy with one of the highest trade-to-GDP ratio, Singapore is export-oriented and has a high reliance on imports. This makes her vulnerable to imported inflation and susceptible to inflation from rising external demand when there is a global economic boom. As such, the exchange-rate centred policy would be the most appropriate to achieve low inflation in Singapore. This could be a reason why the Singapore government has used exchange rate as a policy tool to manage inflation for the past 37 years (since 1981).
- **[Alternatives]** Nonetheless, given that inflation is usually caused by a combination of different factors, there is a need to complement exchange rate policy with other policies that can address the potential threats to inflation to increase the success rate of achieving a low rate of inflation in Singapore. For instance, supply-side policies that increase the productivity of the workforce and boost the economy's productive capacity are commonly used by the Singapore government to maintain price stability.

Mark Scheme

Level	Knowledge, Application / Understanding and Analysis	Marks
L3	For a rigorous and balanced answer that discusses the effectiveness of macroprudential policies against at least two other policies, and is applied to the context of Singapore.	8 – 10
L2	For an answer that provides a balanced but undeveloped discussion of the effectiveness of macroprudential policies with other policies to achieve a low rate of inflation, OR For an answer that provides a one-sided but rigorous analysis of the effectiveness of macroprudential policies to achieve a low rate of inflation. Answer is mainly theoretical.	5 – 7
L1	For an answer that shows some knowledge of the workings and/or limitations of macroprudential policies and/or policies to address inflation.	1 – 4
Level	Evaluation/Synthesis	Marks
E3	For an answer that arrives at an analytically well-reasoned judgement on the extent of the effectiveness of macroprudential policies in addressing inflation in Singapore.	4 – 5
E2	For a judgement based on economic analysis that makes some attempt at a judgment on the extent of the effectiveness of macroprudential policies in addressing inflation in Singapore.	2 – 3
E1	For an unexplained judgement that addresses the question, or one that is not supported by economic analysis.	1

- 6 The Singapore-Australia Free Trade Agreement (SAFTA) is a comprehensive agreement that covers tariff-free access for goods, enhanced access to each other's services sectors, and greater facilitation for investments.**

Source: Ministry of Trade and Industry Singapore

(a) Explain how globalisation influences Singapore's pattern of trade. [10]

(b) Assess the view that the signing of the SAFTA allows Singapore to fulfil only its macroeconomic aims. [15]

(a)

Question Interpretation

Command word/phrase	Explain how	Give details regarding the process
Content	<i>Globalisation</i>	Increased trade and international factor mobility
	<i>Pattern of trade</i>	Composition and volume of a trade
Context	<i>Singapore</i>	Consider characteristics of the Singapore economy

This response requires students to explain how increased trade, labour and capital flows, brought about by globalisation may have shaped Singapore's pattern of trade, in terms of its composition and volume of trade.

Introduction

- Globalisation refers to the economic integration or inter-connectedness of economies. Facilitated by improvement in technology and breaking down of artificial barriers, there is increased international trade flows, increased capital flows (such as FDI), and increased international movement of labour.
- A country's pattern of trade refers to its composition and volume of trade.
- This essay will look at how increased trade and international factor mobility affects Singapore's pattern of trade.

Body

3. *Explain how globalisation affects Singapore's volume of trade*

- With the signing of more free trade agreements with various economies, there has been removal or reduction of both tariff and non-tariff barriers to trade. This has helped Singapore gain access to more export markets, boosting its volume of exports to the world.
- In addition, the improvements in transportation and communication technology have led to increased long-term capital flows between countries. This facilitated the internationalisation of companies and promoted the rise of the global supply chain. Businesses are better able to engage in offshoring and outsourcing of their production processes to tap on the comparative advantage of other economies.
 - For instance, the strategic location of Singapore coupled with its world-class physical infrastructure and logistics, has made it an attractive location for offshoring and outsourcing of the production processes of foreign firms. This has increased the volume of final and intermediate goods and services being imported and exported from Singapore.

4. Explain how globalisation affects Singapore's composition of trade

- The inflow of skilled labour and FDI into Singapore changes its factor endowment and hence its composition of exports. This can be explained by the theory of comparative advantage, which forms the underlying basis of Singapore's composition of trade. A country has a comparative advantage in producing a good if it is able to produce it at a lower opportunity cost than other countries. The country should therefore specialise in producing the good, and trade with a country for goods that it produces at higher opportunity costs.
- Globalisation has resulted in increased inflow of skilled labour into Singapore. This includes higher-skilled foreign labour such as professionals, managers, executives and technicians (PMETs). Such inflow of skilled labour brings along relevant skills and expertise, and helps facilitate the transfer of skills to the local workforce.
 - For instance, the inflow of scientists and engineers from abroad has allowed Singapore to develop a comparative advantage in new and emerging industries such as biomedical sciences and aerospace. This has led to increased exports of pharmaceutical products and aircraft engine components, thus influencing the composition of Singapore's exports.
- In addition, globalisation has also resulted in increased flow of FDI into Singapore, which brings along with them foreign technology and expertise, thus increasing the quantity and quality of capital in Singapore. This has enabled Singapore to develop a comparative advantage in high-skilled and technology intensive products such as pharmaceuticals, finance, business services and bio-medical services and equipment.
 - The setting up of biomedical and pharmaceutical companies like GlaxoSmithKline and Pfizer in Singapore has increased Singapore's exports of healthcare and pharmaceutical products to the world, thus influencing the composition of its exports.

Conclusion

- In conclusion, globalisation which brings about increased trade flows and international movement of labour and capital, has influenced Singapore's volume and composition of trade, thus affecting its pattern of trade.

Mark Scheme

Level	Knowledge, Application / Understanding and Analysis	Marks
L3	For a rigorous answer <ul style="list-style-type: none"> • that provides a detailed analysis of how globalisation in terms of increased trade, labour and capital flows can influence Singapore's volume and composition of trade • with good application to the Singapore context 	8 - 10
L2	For an underdeveloped answer <ul style="list-style-type: none"> • that provides some degree of economic analysis of how globalisation in terms of increased trade, labour and capital flows can influence a country's volume and composition of trade, or • that rigorously analyses how increased trade <u>or</u> increased labour and capital flows can influence a country's volume <u>or</u> composition of trade, and • with limited or no reference to the Singapore context 	5 - 7
L1	For an answer that shows some knowledge of globalisation and Singapore's pattern of trade but is largely irrelevant or contains conceptual errors.	1 - 4

(b) Assess the view that the signing of the SAFTA allows Singapore to fulfil only its macroeconomic aims. [15]

Question Interpretation

Command word/phrase	Assess the view	Present different perspectives of the view and evaluate the validity of the view
Content	<i>Signing of the SAFTA</i>	Signing of a free trade agreement that allows increased trade and capital flows between Singapore and Australia
	<i>Only its macroeconomic aims</i>	Economic growth, full employment, price stability and favourable BOP position Consider microeconomic aims too
Context	<i>SAFTA</i>	Free trade agreement between Singapore and Australia
	<i>Singapore</i>	Consider characteristics of the Singapore economy

A relevant response requires the analysis of how signing the free trade agreement may positively impact Singapore's economy and help it achieve its macroeconomic aims. To provide a balanced perspective to the view, answers need to also consider how signing of the FTA may help Singapore achieve its microeconomic aims as well. An evaluative judgement on the extent to which the signing of the SAFTA allows Singapore to fulfil only its macroeconomic aims is needed.

Introduction

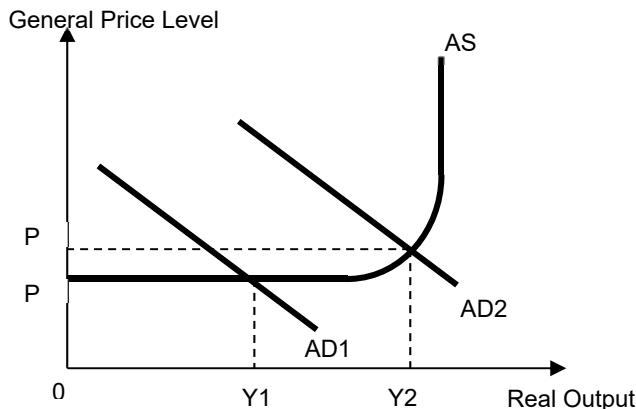
- By signing the SAFTA, there will be increased trade and capital flows between Singapore and Australia. This can help Singapore achieve its macroeconomic aims of economic growth, full employment, price stability and a favourable balance of payments (BOP) position.
- However, the essay will argue that the SAFTA may also allow Singapore to fulfil its microeconomic aims of efficiency and equity, before evaluating the extent to which it fulfils only the macroeconomic aims.

Body

Thesis: The SAFTA enables Singapore to achieve its macroeconomic aims

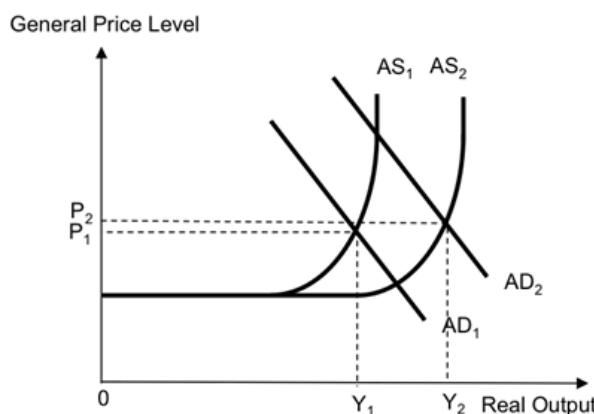
1. Explain how the SAFTA may result in increased economic growth and employment in Singapore
- With the reduction of trade barriers and the freer flow of goods and services between Singapore and Australia due to the SAFTA, firms in Singapore can market and sell their goods and services more easily to Australian consumers. This allows Singapore to overcome any weaknesses in external demand arising from other export markets, to enjoy greater actual growth due to a rise in exports to Australia. As Singapore has a limited domestic market and is therefore extremely dependent on external demand for its growth, greater access to the Australian market, would bring about an increase in its export demand and hence aggregate demand (AD), thus stimulating its growth and increasing employment.
- As shown in Figure 1, an increase in export demand raises Singapore's AD and causes it to shift rightwards from AD_1 to AD_2 . This increase in demand for goods and services results in an increase in firms' derived demand for labour as they increase output in the next

production cycle. The resultant increase in income levels leads to a rise in income-induced consumption, which causes a further rise in AD. The subsequent rounds of increases in income-induced consumption and AD results in a multiplied increase in national income and real output, as represented by the increase in real output from Y_1 to Y_2 .



2. Explain how the SAFTA may result in lower inflation and hence price stability in Singapore

- Furthermore, the increased long-term capital flows from Australia to Singapore contributes to potential growth in Singapore, which can dampen inflationary pressures in the long run.
- The SAFTA promotes freer movement of capital between Singapore and Australia which may result in greater flow of FDI into Singapore. At the same time, with the business-friendly environment in Singapore, export-oriented FDI from other countries may also increase, as firms seek to establish their production in Singapore in order to enjoy tariff-free exports to the Australian market.
- As shown in Figure 2 below, the increased FDI in Singapore increases its AD from AD_1 to AD_2 . In the long run, the increased capital accumulation also causes Singapore's productive capacity and hence AS to increase from AS_1 to AS_2 . Overall the real output increases from Y_1 to Y_2 while general price level increases from P_1 to P_2 , allowing Singapore to achieve sustained growth with no significant upward pressure on the general price level. The increase in productive capacity due to the increased FDI therefore helps to dampen demand-pull inflation in the Singapore economy, and enables it to achieve the aim of price stability.



3. Explain how the SAFTA may result in favourable BOP in Singapore

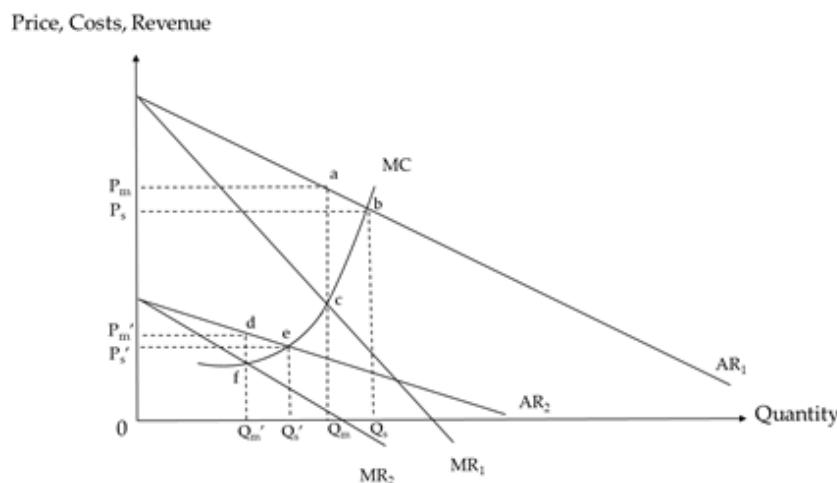
- As Australia removes non-tariff barriers on Singapore's exports, the volume of Singapore's exports to Australia increases, which increases its export revenue, ceteris paribus. Likewise, with the removal of tariffs on Singapore's exports, the fall in prices will result in an increase in quantity demanded for Singapore's exports in Australia. If

Australia's demand for Singapore's exports is price elastic, there will be an increase in export revenue. The increase in net export revenue improves Singapore's trade balance and hence current account and BOP.

- In addition, with greater FDI flows into Singapore due to the SAFTA, this will improve Singapore's capital and financial account, and hence its BOP.

Anti-thesis: The SAFTA may also help Singapore achieve its microeconomic aims of efficiency and equity

1. Explain how the SAFTA may help reduce market dominance in Singapore thus achieving greater allocative efficiency and equity in certain markets
- The signing of the SAFTA could bring about increased FDI into Singapore which results in greater competition faced by domestic firms in certain industries. This reduces the demand for the goods and services produced by domestic firms, and makes the demand more price elastic due to the greater availability of substitutes from foreign firms.
 - As shown in Figure 3, the new demand and MR curves facing each firm is now AR_2 and MR_2 . At the new profit maximising level of output at Q_m' , where $MC = MR_2$, a lower price P_m' is charged compared to the initial price P_m .
 - This helps the Singapore government achieve its microeconomic objective of allocative efficiency in the industries that see an increase in number of foreign firms, as production is likely to move closer to $P=MC$. As seen in Figure 3, deadweight loss is reduced from area abc to area def.
 - By allowing for more market competition and by lowering prices to goods and services, this would also improve equity, especially if the issue of market dominance is in markets for necessities. With lower prices, more consumers will be able to access the goods, even those with lower ability to pay for the good.
 - In addition, with the introduction of more competition in markets, it would reduce the likelihood of large local firms earning supernormal profits and wealth being concentrated in the hands of a small number of producers.



2. Explain how the SAFTA may help encourage greater R&D and innovation in Singapore thus achieving greater allocative efficiency in markets

- Signing the SAFTA may increase local firms' ability and willingness to engage in R&D and innovation, which helps achieve greater allocative efficiency in markets. R&D and innovation generate positive externalities as there are external benefits to third parties such as other firms if they are given access to the outcomes of the research and innovation. As firms only consider their marginal private benefits (e.g. increased profits) and marginal private costs (e.g. monetary cost of engaging in research) of engaging in

R&D, the level of R&D will be below the socially optimal level. There is allocative inefficiency due to under-allocation of resources to R&D activities.

- The increased access to the Australian market results in increased revenue for the export-oriented industries in Singapore. Assuming that costs remain unchanged, the higher revenue results in higher profits enjoyed by the Singapore firms. This increases the firms' ability to invest in R&D and innovation.
- Moreover, as local firms face increased competition from foreign firms, they may have greater incentive to invest in R&D and innovation so as to improve and further differentiate their products in order to enjoy a higher and more price inelastic demand. This would allow them to charge higher prices and increase their total revenue and hence profits.
- The increased level of R&D among domestic firms upon signing the SAFTA will thus lead to greater allocative efficiency in the markets, achieving the microeconomic aim of the government.

Evaluative conclusion

- **[Stand]:** While the signing of the SAFTA may help the Singapore government achieve its macroeconomic aims, it can also enable it to fulfil its microeconomic aims of efficiency and equity. The increased competition with foreign firms reduces market dominance and encourages R&D among local firms, which improves allocative efficiency and equity in Singapore. Hence, it is not true that the signing of the FTA with Australia enables Singapore to achieve only its macroeconomic objectives.
- **[Situation]:** Nevertheless, due to Singapore's small domestic market and vulnerability to external shocks, the main reason for signing the SAFTA is likely to achieve the macroeconomic aims of sustained growth and full employment. This is especially so with the slowdown in economic growth in many advanced economies, as well as the rise of protectionist sentiments in several countries, including the US, which is a major export market of Singapore.
- **[Magnitude]:** On the other hand, the outcomes of greater allocative efficiency and equity may be seen as merely positive unintended consequences of signing the SAFTA. There are already measures put in place to achieve greater efficiency and equity even prior to signing of such FTAs. For instance, laws such as the Competition Act exist to regulate anti-competitive conduct by firms and promote more competition by encouraging more firms to enter industries dominated by large firms.
- Hence, while it is not true that the SAFTA only fulfils Singapore's macroeconomic aims, achieving the macroeconomic aims is probably the main reason for signing the FTA.

Mark Scheme

Level	Knowledge, Application / Understanding and Analysis	Marks
L3	For a rigorous and balanced answer that analyses how signing the SAFTA enables Singapore to achieve both its macroeconomic and microeconomic aims.	8 – 10
L2	For an answer that provides a balanced but undeveloped discussion on how signing the SAFTA enables Singapore to achieve <u>both</u> its macroeconomic and microeconomic aims. OR For an answer that provides a one-sided analysis of how signing the SAFTA enables Singapore to achieve its macroeconomic <u>or</u> microeconomic aims.	5 – 7
L1	For an answer that is mostly descriptive, with some inaccuracies and is not in context.	1 – 4
Level	Evaluation/Synthesis	Marks
E3	For an answer that arrives at an analytically well-reasoned judgement on the extent to which signing the SAFTA enables Singapore to achieve only its macroeconomic aims.	4 – 5
E2	For a judgement based on economic analysis and makes some attempt at a judgment on the extent to which signing the SAFTA enables Singapore to achieve only its macroeconomic aims.	2 – 3
E1	For an unexplained judgement, or one that is not supported by economic analysis	1



**VICTORIA JUNIOR COLLEGE
JC2 PRELIMINARY EXAMINATION 2018
HIGHER 2**

H2 ECONOMICS

9757/01

Paper 1

2 hours 15 minutes

Additional Materials: Answer Paper

READ THESE INSTRUCTIONS FIRST

Write your name and class on all the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use an HB pencil for any diagram or graphs.

Do not use staples, paper clips, highlighters, glue or correction fluid.

DO NOT WRITE IN ANY BAR CODES.

Answer **all** questions.

Start each question on a FRESH piece of paper.

At the end of the examination, fasten your work securely, by question, using the strings provided.

The number of marks is given in brackets [] at the end of each question or part question.

This document consists of 7 printed pages

[Turn over

Answer **all** questions.

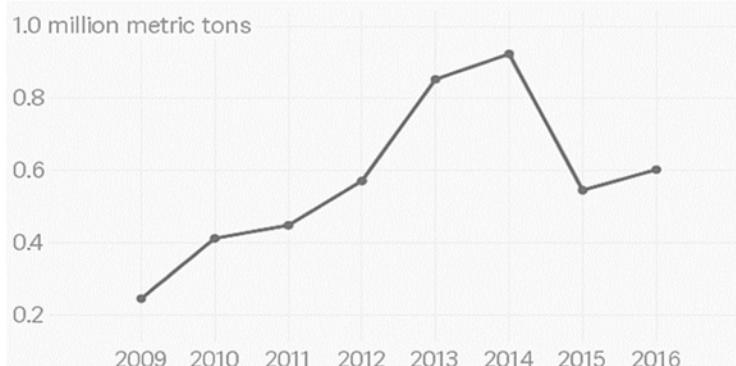
Question 1: Infant Formula Milk

Figure 1 – Singapore Infant Formula Milk Prices (\$ per 900g tin)



Source: Singapore Department of Statistics

Figure 2 – Volume of China's Infant Formula Milk Import



Source: Dairy Association of China

Extract 1: Fear of tainted infant formula milk in China

Ten years after China's infant formula milk tragedy, parents still won't trust their babies with local formula. The national disaster took the lives of six infants and sickened more than 300,000 babies in China. The chemical compound called melamine, used in plastic and fertilizer production, had made its way into infant formula milk; shattering the confidence of people in Chinese-made infant formula milk; and in the entire local food supply.

Parents in China have been paying double to buy infant formula milk from Singapore, and are willing to pay up to S\$200 to have the product couriered to their home as they believe the products from Singapore are of higher quality.

Adapted from Asiaone.com, Feb 2018

Extract 2: Rising prices of infant formula milk

Infant formula milk prices in Singapore have more than doubled over the last decade to become among the highest in the world. Parents remain loyal to their chosen brands of milk powder even as the average price of infant formula milk continues to rise. They are willing to spend on good-quality infant formula milk because infant formula milk constitutes the sole source of nutrients for their young child if breast milk is not available. Moreover, infant formula milk is a short-term spending item. As a result, they are willing to incur high expenses in the short-term to buy good quality infant formula milk.

Adapted from The Straits Times, 8 Feb 2018

Extract 3: Government steps in to regulate the infant formula milk market in Singapore

According to the Competition Commission of Singapore (CCS) study, new entrants into the infant formula milk market will find it extremely difficult to convince parents that they are similar or even superior to other brands within their decision pool, especially given the market power and branding that the incumbents currently enjoy. New entrants will not be able to compete with the incumbents as the latter invest heavily on research and development so that they can introduce new infant formula milk products with modified formulations or packaging.

The aggressive marketing and promotion campaigns of the incumbents like Nestle, Abbott and Mead Johnson which holds 72% of Singapore market share, tend to encourage parents to make bulk purchases. In addition, they also invest a disproportionate share of their marketing expenditures on hospitals. These brands of infant formula milk being placed as the default brand in the hospital wards helps to expose the brand to new parents. Securing such customers at the very beginning of their parenting journey was critical to reinforce their brand loyalty.

To encourage more competition, the Singapore government will also simplify and streamline import requirements as well as remove unnecessary barriers to entry in order to bring in more options for parents without compromising food safety. Regulations to curb excessive marketing and encourage greater price competition have also been amended to prohibit health and certain nutrition claims by infant formula milk manufacturers, as well as texts and images that idealise the use of infant formula milk in Singapore.

Consumer education is also key. The Health Promotion Board (HPB) has recognised the lack of awareness around infant formula milk where some parents were unaware that infant formula milk can be stopped after the age of one. A multi-year marketing programme by HPB will also cover the nutritional composition of infant formula milk to help parents make more informed decisions.

With an increase in consumer awareness and the availability of more affordable infant formula milk options, prices should become more affordable. However, it will take time for consumer behaviour to shift, and for the market to react accordingly.

Adapted from Competition Commission of Singapore, 10 May 2017

Extract 4: Australia to cash in on China's infant formula milk boom

Australia's reputation as a producer of high-quality foods is a blessing for Australian infant formula milk producers. A free trade deal between Australia and China could set Australia up to take advantage of China's addiction to Western milk powder. There are tariff savings, investment opportunities, more exports and more profit. With the trade deal, the current 15% tariff China imposes on Australian infant formula milk is set to be phased out within four years.

The China infant formula milk market is potentially "a massive opportunity" for capable Australian infant formula milk companies, especially given the baby boom stemming from the relaxation of China's one-child policy and the growing spending power of China's growing middle class. The rise of the Internet and social media in China is also playing a role, making it easier for Chinese consumers to buy their preferred infant formula milk via e-commerce websites.

But it's not all milk and honey. There are thousands of infant formula milk companies in China so it is a very competitive space. The market is serviced by international brands with deep pockets and vast experience. The infant formula milk scandal has also prompted the Chinese government to implement stricter regulation for baby formula food. The ingredients, food additives, formula and labels of baby formula food must be recorded and registered with the China Food and Drug Administration (CFDA).

Adapted from BBC, 14 January 2015

Questions

- (a) (i) Using Figure 1, compare the change in infant formula milk prices for [2] the periods 2007 to 2014 and 2014 to 2017.
- (ii) Explain whether the data in Figure 2 is able to support the observed [4] change in infant formula milk prices for the period 2007 to 2014.
- (b) What can you conclude from the evidence in Extract 2 about the price [2] elasticity of demand for infant formula milk?
- (c) With reference to the data, justify the market structure for the infant [4] formula milk market in Singapore.
- (d) Discuss the factors Australian infant formula milk companies are likely [8] to consider when deciding whether to enter the Chinese infant formula milk market.
- (e) To what extent can the measures adopted by the Singapore [10] Government mentioned in Extract 3 increase the affordability of infant formula milk for Singaporeans?

[Total: 30]

Question 2: Brexit Consequences for the UK & Singapore

Table 1: UK Consumer Price Index & Labour Productivity (annual % change)

	2013	2014	2015	2016	2017
Consumer Price Index	2.3	1.5	0.4	1.0	2.6
Labour Productivity Growth	0.6	1.8	-0.1	1.4	0.3

Source: Office for National Statistics, UK

Table 2: Economic Indicators in Singapore & UK (% of GDP)

	Singapore		UK	
	2016	2017	2016	2017
Gross Savings	46.2	48.1	11.8	13.2
Exports of Goods and Services	168.2	173.3	28.3	30.5
Import of Goods and Services	142.1	149.1	30.3	31.9
Government Budget Balance	-1.2	0.3	-0.4	0.1

Source: MAS, World Bank

Extract 5: Pound sterling slumps with news of Brexit

Uncertainty over the outlook of the UK economy after the Brexit vote (Britain's vote to leave the European Union (EU) in June 2016 has sent the pound sterling plummeting to levels not seen since the 1980s. However, the sharp fall in the pound sterling has yet to bring about the expected improvement in the trade deficit.

A year after the sharp depreciation of the pound sterling, household spending growth has virtually stalled. It was a response to the squeeze on living standards caused by the sterling-induced jump in the cost of living.

Meanwhile, net trade did not contribute to growth in the three months from April 2017 to June 2017. Britain is now the slowest growing economy in the G7 courtesy of weak investment, cautious consumers and its failure to exploit the opportunity afforded by the pound sterling's depreciation. Some attributed the flat growth in net trade to the time lags arising from importers and exporters having to honour pre-existing contracts.

Adapted from The Guardian, 24 August 2017

Extract 6: UK economy slips down competitiveness ranking

Competitiveness of an economy can be considered from three perspectives – export competitiveness, attractiveness as a Foreign Direct Investment destination, and labour competitiveness.

The World Economic Forum's (WEF) annual competitiveness index ranked the UK as the eighth best economy in the world, down from seventh last year. Experts are warning that

Brexit could see the country slip further. The WEF said Brexit is "likely to further undermine the country's competitiveness" in future.

The organisation has previously warned that Brexit is likely to have negative effects on the UK in both the short and long term. In the short term, prior to any changes to the law, increased uncertainty will reduce investment, consumption, and foreign trade as consumers and investors become more cautious. Beyond that, the UK is likely to face the full negative impact of a lack of access to the single market, which will increase the cost of trade, investment, and the movement of labour, all of which will eventually be reflected in the economy's overall efficiency.

Adapted from The Independent, 27 September 2017

Extract 7: Staying competitive amidst Brexit

According to the British Chambers of Commerce (BCC), the biggest challenges facing businesses in the UK are to do with "fundamentals" rather than Brexit. "The best possible Brexit deal will not matter to the UK's competitiveness if the roads remain potholed and congested, if you can't get mobile phone coverage around the UK, if business broadband is poor and companies can't get the people they need because the training system isn't working to deliver for them," says Adam Marshall, the director general of the BCC.

Policy makers have wrestled with low UK productivity growth since the financial crisis in 2008. The UK is also one of the most unequal developed countries in the world and reports suggested that the rising income inequality was a key factor that contributed to the UK's vote to leave the EU.

The UK government said it was committed to its Industrial Strategy, a long term plan to boost the productivity and earning power of people throughout the UK. In addition, its £1.7bn Transforming Cities Fund which aims to improve productivity through investment in transport infrastructure will address weaknesses in city transport systems, improving connectivity and reducing congestion.

The negative impact of Brexit on UK's competitiveness may push the UK to be more aggressive in its tax offer. Corporate tax in UK is currently at 19% and due to be cut to 17% by 2020. UK's Prime Minister Theresa May has suggested that it could be lowered further in an effort to encourage businesses to invest in Britain.

Adapted from BBC, 8 March 2018

Extract 8: Brexit and Singapore

Brexit isn't bad news for everyone in Singapore. Companies like Hart Technologies, a Singapore-based dealer of fire protection equipment who imports products from the UK will benefit from the pound sterling's sharp drop against the Singdollar.

But the pound sterling's volatility cuts both ways. In the near term, the pound sterling's free fall against most currencies is expected to hurt Asian exporters with strong exposure

to UK markets, or with earnings denominated in pound sterling. But that is broadly manageable unless Brexit drags down demand across the EU as well.

Economists are also concerned that Singapore's overall economy will be affected if British companies here start to pull back on investment in manufacturing due to the weaker pound sterling against the Singdollar. That in turn, could also have a knock-on effect on local support services like advertising, business and professional services, and financial services.

Britain is No. 22 on the list of Singapore's trading partners - its non-oil domestic exports to Britain account for less than 1 per cent of total shipments, while imports from Britain constitute about 2 per cent of Singapore's total imports.

Adapted from The Straits Times, 29 June 2016

Questions

- (a) Describe the change in consumer prices in the UK between 2013 and 2017. [2]
- (b) Explain how the 'squeeze on living standards' of UK households could be caused by the 'sterling-induced jump in cost of living' (Extract 5). [3]
- (c) Explain possible reasons why the UK trade deficit did not improve despite the depreciation of the pound sterling. [4]
- (d) With reference to Table 2, explain how you would expect the size of the multiplier to differ between the UK and Singapore. [3]
- (e) Discuss the possible consequences of Brexit on households and firms in Singapore. [8]
- (f) Assess the measures the government should adopt to address the loss of competitiveness in the UK. [10]

[Total: 30]

----- End of paper -----



**VICTORIA JUNIOR COLLEGE
JC 2 PRELIMINARY EXAMINATION 2018
HIGHER 2**

H2 ECONOMICS

9757/02

Paper 2

2 hours 15 minutes

Additional Materials: Answer Paper

READ THESE INSTRUCTIONS FIRST

Write your name and class on all the work you hand in.
Write in dark blue or black pen on both sides of the paper.
You may use an HB pencil for any diagram or graphs.
Do not use staples, paper clips, highlighters, glue or correction fluid.
DO NOT WRITE IN ANY BAR CODES.

Answer **three** questions in total, of which **one** must be from Section A, **one** from Section B and **one** from **either** Section A or section B.

Start each question on a FRESH piece of paper.

At the end of the examination, fasten your work securely, by question, using the strings provided.

The number of marks is given in brackets [] at the end of each question or part question.

This document consists of **3** printed pages

[Turn over

Answer **three** questions in total.

Section A

One or two of your three chosen questions must be from this section.

- 1** Electric Vehicles (EVs) that run on lithium batteries are gaining popularity due to the growing concern over air pollution. Advancements in EV technology has also led to cost improvements for carmakers.

Discuss the impact of the above events on the market for electric vehicles and its related markets. [25]

- 2** The number of mergers in the telecommunications industry has been increasing significantly. Following the merger between AT&T and Time Warner, US telecom giants T-Mobile and Sprint have also reached an agreement to merge and are now awaiting the approval from government antitrust regulators.

(a) Explain the characteristics which determine the market structure that telecommunications firms operate in. [10]

(b) Discuss the factors a government should consider when deciding whether to approve the merger of firms. [15]

- 3** With access to quality schooling and information on the Internet, most Singaporeans are educated on various issues, ranging from the risks of excessive plastic use to being a more discerning buyer of second-hand cars. However, there remains hurdles that prevent Singaporeans from making well-informed choices.

(a) Explain why a government might intervene in the above cases. [10]

(b) In light of the above-mentioned, evaluate the policies that the Singapore government can adopt. [15]

Section B

One or two of your three chosen questions must be from this section.

- 4 (a) Explain the information an economist would require to determine whether the standard of living in a country has improved over time. [10]
- (b) Discuss why governments may need to choose a mix of policies to achieve a high standard of living. [15]
- 5 Different governments implement different policies to reduce the country's current account deficit. Whilst the US government impose protectionist measures like tariffs, other governments choose to adopt tight fiscal policy or supply side policies.
- (a) Explain the factors that are likely to cause a balance of payments deficit on the current account. [10]
- (b) Discuss the appropriateness of the measures a government could adopt to alleviate a current account deficit. [15]
- 6 Free trade agreements are treaties which make trade and investment between two or more economies easier. International business is now simpler with Singapore's network of over 22 implemented agreements.

Source: Enterprise Singapore

Discuss the impact of free trade agreements on different economies. [25]

----- End of paper -----

Suggested answers to 2018 VJC H2 Prelims Paper 1

Question 1

a.	<p>i) Using Figure 1, compare the change in infant formula milk prices for the periods 2007 to 2014 and 2014 to 2017.</p> <p>Infant formula milk prices increased in both periods. (1)</p> <p>Infant formula milk prices more than doubled from 2007 to 2014; while it rose by only about 10% for 2014 to 2017. (1)</p>	[2]
	<p>ii) Explain whether the data in Figure 2 is able to support the observed change in infant formula milk prices for the period 2007 to 2014.</p> <p>Given the data in Figure 2, there is a positive correlation between rising infant formula milk prices and rising import of infant formula milk in China. (1) This could suggest that China could have been importing from Singapore, leading to an increase in demand creating a shortage there. Hence, the rapid rise in prices of infant formula milk over this period. (1)</p> <p>Figure 2 is insufficient because there is no clear data on the source of the China's infant formula milk imports. Despite evidence from Extract 1 that Chinese parents were willing to pay double for these products from Singapore, China could have also imported the infant formula milk from other countries like Australia. (2)</p> <p>OR</p> <p>Figure 2 alone is not able to fully support the observed change in infant formula milk prices. In addition, price changes could arise from supply factors and not only from changes in demand. Thus, information on the supply of infant formula milk China and Singapore is needed. The rapid rise in price could have been due to a fall in supply of infant formula milk in Singapore. (2)</p>	[4]
b.	<p>What can you conclude from the evidence in Extract 2 about the price elasticity of demand for infant formula milk powder?</p> <p>From Extract 2, it can be inferred that the demand for infant formula milk powder is likely to be highly price inelastic given that parents continue to demand infant milk powder due to the perceived lack of close substitutes as they 'remain loyal' despite the huge increases in price. (2)</p> <p><i>Also accept demand for infant formula milk powder is perfectly price inelastic if explained clearly – infant milk powder is the only available substitute for infant milk powder is breast milk. Lack of other close substitute available suggests demand for it is perfectly price inelastic for those who cannot breast feed.</i></p>	[2]
c.	<p>With reference to the data, justify the market structure for the formula milk market in Singapore.</p> <p>It is an Oligopoly market structure, dominated by a few dominant sellers as seen in Extract 3, where Nestle, Abbott and Mead Johnson constitute 72% of the total market share in Singapore. Such dominance implies strong market power for firms in this industry. (2)</p>	[4]

	<p>In addition, the high barriers to entry (BTE) is also a characteristic of oligopoly market structure. Extract 3 mentions that such firms aggressively advertise which may result in high brand loyalty for the incumbent firms' goods. In addition, the heavy investment in R&D in order to develop better and newer products will result in high start-up costs that require new entrants to produce at a higher output level in order to reap the large economies of scale. These strategies create high BTE, limiting the ability of new firms to enter and compete, which in turn gives firms in this industry strong market power. (2)</p>	
d.	<p>Discuss the factors Australian infant formula milk companies are likely to consider when deciding whether to enter the Chinese infant formula milk market.</p> <p>Intro: Assuming that Australian infant formula milk companies aim to maximize profits, they will consider factors that affect their total revenue (TR) as well as total cost (TC) when deciding whether to enter the Chinese market.</p> <p>Body: Australian infant formula milk companies are likely to consider the potential size of the Chinese market as it affects the firm's revenue. [C, E] Australian firms will be able to capitalize on the reputation of Australia as a producer of high-quality food (Ext 4). This will cause the DD for Australian infant formula milk to rise; particularly following the stigma of infant formula milk scandal (Ext 1); existing consumers may switch to milk powder produced in Australia as a result. This rise in demand will increase the expected revenue for Australian infant formula milk companies.</p> <p>Given the relaxation of China's one child policy (Ext 4 para 2), there would also be a rise in DD for infant formula milk as more children are born in China, increasing the expected revenue for Australian companies.</p> <p>As Chinese households become affluent (Ext 4 para 2), income and hence their purchasing power increases, enabling them to afford premium infant formula milk, increasing the demand for infant formula milk and the firms' expected revenue.</p> <p>These factors above are likely to affect the expected demand for Australian infant formula milk and hence the potential size of the infant formula milk market in China, which will in turn impact Australian firms' expected total revenue.</p> <p>Australian firms are likely to consider the level of barriers to entry of Australian-produced infant formula milk to the Chinese market. Governments can put up artificial barriers to entry in the form of food regulations or import tariffs. The free trade deal between China and Australia will bring about a tariff saving of 15% as it is phased over 4 years (Ext 4). This reduction in tariff will lower the price of Australian-produced infant formula milk in the Chinese market. If the firms pass on the cost savings (from tariff elimination) to consumers, it will result in a fall in the price of Australian infant formula milk. The resulting rise in quantity demanded is likely to be more than proportionate to the fall in price given that demand for Australian infant formula milk is likely to be price elastic (i.e. $PED > 1$) because of the large number of available substitutes, resulting in higher revenue reaped by the Australian firms.</p>	[8]

		<p>However, entering the Chinese market may also mean higher cost due to the need to adhere to stricter regulation following the infant formula milk scandal (Ext 4). These measures may increase the administrative cost of importing of Australian-produced infant formula milk as they need to adhere to these regulations.</p> <p>Australian firms may also consider the potential cost savings from reaping EOS by selling in the Chinese infant formula milk market.</p> <p>[C, E] By expanding into the Chinese market, Australian firms will be able to produce a larger output given the size of the Chinese market, enabling it to reap greater economies of scale e.g. marketing economies of scale through the bulk purchases of factor inputs to produce infant milk powder. Increasing economies of scale will enable firms to lower their average cost of production.</p> <p>The rise of internet and e-commerce have also changed tastes & preferences amongst consumers who prefer to buy online instead of physical stores. This will lower the cost of selling in the Chinese market as there is no longer a need to incur significant fixed costs in the form of rentals to set up physical stores to access the Chinese market.</p> <p>Evaluation/Conclusion:</p> <p>In deciding whether to enter the Chinese market, Australian infant milk companies will need to weigh the expected revenue and costs of entering the market. Given that the market is an oligopoly market structure (Ext 3), there is mutual interdependence and rivals' actions are likely to affect the extent of the changes in revenue and costs, hence firms will also have to consider the perspectives of current incumbent firms. For example, while there may be potential EOS to be reaped in selling to a larger market, the extent of the EOS may be limited given the competition from the numerous sellers in China (Ext 4 para 3). The deep pockets and vast experience of the incumbent firms also suggest that there is a high possibility of aggressive advertising and other entry deterrence strategies. Hence, the intensity of competition will be a key consideration that should also be factored in when weighing the costs and benefits of entry.</p>													
e.		<p>Mark scheme</p> <table border="1"> <thead> <tr> <th>Level</th><th>Descriptors</th><th>Marks</th></tr> </thead> <tbody> <tr> <td>L2</td><td>A balanced and well-explained answer that considers the extent of 2 or more factors (revenue vs costs) that Australian infant formula milk companies would consider; and is well-supported by theory and case evidence.</td><td>4 – 6</td></tr> <tr> <td>L1</td><td>Response is largely theoretical and limited in scope; or Brief answer which contains some listing and explanation that is theoretical and not well-supported by case evidence</td><td>1 - 3</td></tr> <tr> <td>E</td><td>Stand with some attempt at substantiation Stand with well-supported substantiation (eg. using contextual justification to highlight relative importance)</td><td>1 - 2</td></tr> </tbody> </table> <p>To what extent can the measures adopted by the Singapore Government mentioned in Extract 3 increase the affordability of infant formula milk for Singaporeans?</p>	Level	Descriptors	Marks	L2	A balanced and well-explained answer that considers the extent of 2 or more factors (revenue vs costs) that Australian infant formula milk companies would consider; and is well-supported by theory and case evidence.	4 – 6	L1	Response is largely theoretical and limited in scope; or Brief answer which contains some listing and explanation that is theoretical and not well-supported by case evidence	1 - 3	E	Stand with some attempt at substantiation Stand with well-supported substantiation (eg. using contextual justification to highlight relative importance)	1 - 2	[10]
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Intro:

The Singapore infant formula milk market can be characterised by an Oligopoly market structure where there are few dominant firms, high barriers to entry and imperfect information.

The measures that the Singapore Government could adopt to curb market dominance are: (1) consumer education; (2) streamline import requirements to remove unnecessary barriers to entry; and (3) regulations to curb excessive marketing.

Body:

Consumer education where infant formula milk can be stopped after the age of 1 will reduce the market demand for infant formula milk.

The Health Promotion Board's plans to educate parents who were unaware that infant formula milk can be stopped after the age of 1 will reduce information failure arising from the parents' ignorance by providing parents with information about the true marginal private benefits of their offsprings' consumption of infant formula milk after the age of 1. This will reduce the market demand for infant formula milk, *ceteris paribus*, exerting a downward pressure in the price of infant formula milk.

Due to the high literacy level of the population, the education campaign will reach out to the parents through the various media platforms. However, the receptiveness of the parents to the campaign may be uncertain given the constraints of the parents' need to juggle the demands of their work commitments which may result in less time to prepare and source for infant formula milk alternatives, hence the fall in demand for infant formula milk may not materialize.

To streamline import requirements as well as remove unnecessary barriers to entry in order to bring in more options for parents (Ext 3) will increase market supply for infant formula milk.

Simplifying and streamlining import requirements and the removal of barriers to entry will increase the number of firms who can offer infant formula milk in Singapore since new entrants will find it less costly and risky to enter the Singapore infant formula milk market despite the strong brand loyalty created by the incumbents, thereby increasing the supply of infant formula milk in the Singapore market. With the increase in supply, *ceteris paribus*, it will exert a downward pressure on the price of infant formula milk, thereby increasing the affordability of infant formula milk.

With more options available, the demand for branded infant formula milk offered by incumbent firms will also fall since consumers can now switch to the alternative brands and demand also becomes more price elastic.

Despite the streamlining of import requirements, incumbent firms may deter entry by cutting prices (*limit pricing*) which increases the affordability for consumers but may also take the form of non-price strategies such as product innovation which increases consumer choice instead. Thereby, the extent of the intended effect on price fall is not certain.

	<p>Consumers' mind-sets & preferences take time to change. Parents' brand loyalty to the dominant firms' brands due to past experiences and advertising may still linger and result in consumers' perceived benefits derived from branded infant formula milk to be greater than the actual benefits; thereby rendering the above measures ineffective in the SR.</p> <p>Regulations to curb excessive marketing and encourage greater price competition (Ext 3)</p> <p>By limiting the extent of these marketing strategies, it lowers the artificial barriers to entry, allowing for a more level-playing field for new entrants into the market to provide equally good infant formula milk. With more options, parents are now able to choose based on the benefits of their infant formula milk, and be less deterred or misled by unnecessary marketing, causing the demand for infant formula milk to be more price elastic. This curbs the extent of market dominance of incumbents reducing their ability to charge high prices, hence increasing the affordability of infant formula milk.</p> <p>In addition, since new entrants do not need to incur additional costs of marketing, such cost savings could be passed on to consumers in terms of lower prices.</p> <p>Despite the availability of more substitute brands, demand for branded infant formula milk may still be relatively price-inelastic as they do not perceive the new entrants as close substitutes. Moreover, as it is only consumed for a short term, the proportion of income spent on the good may not be high for the average household in Singapore.</p> <p>Evaluation/Conclusion:</p> <p>While the above measures may bring about a fall in the price of infant milk formula, there are limitations and unintended consequence on these firms. For instance, given the oligopolistic nature of the infant formula milk market in Singapore, measures targeted at firms (regulation & streamline import requirements) will be more effective in the short-run due to the uncertainty of the outcome arising from consumer education. However, a fall in the incumbent firms' supernormal profits may affect their ability to develop better infant milk formula in the future.</p> <p>However, given the possible contestability of markets as a result of the changes in regulations, existing firms are likely to continue to innovate and differentiate their products; especially given that these firms are international brands with extensive market scope.</p>										
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		E	Evaluative comment which assess the extent to which measures can increase the affordability of infant formula milk, taking into consideration the context.	1 - 3	
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Question 2

a.	<p>Describe the change in consumer prices in the UK between 2013 and 2017.</p> <p>Consumer prices increased at a decreasing rate from 2013 to 2015 [1] before increasing at an increasing rate from 2015 to 2017 [1].</p>	[2]
b.	<p>Explain how the ‘squeeze on living standards’ of UK households could be caused by the ‘sterling-induced jump in cost of living’ (Extract 5).</p> <p>Depreciation of pound sterling led to a rise in the price of imported goods and services in pound sterling. (1)</p> <p>Assuming there were no domestic substitutes available and household incomes remained the same, purchasing power of UK households fell. This translates to a fall in quantity of imported goods and services consumed and thereby lowers the material living standards for HHs. (2)</p>	[3]
c.	<p>Explain possible reasons why the UK trade deficit did not improve despite the depreciation of the pound sterling.</p> <p>From Extract 6, UK has slipped down the competitiveness ranking which may suggest a fall in export competitiveness arising from poor quality of exports. This suggests that despite the depreciation of the pound, they might still have been reduced willingness to consume UK exports due to their poor quality. Hence, UK trade deficit did not improve as the depreciation of pound might not have been sufficient to increase consumer's willingness to consume UK exports. (2)</p> <p>As explained in part a), consumer prices have continued to increase, which implies that prices of UK goods & services have increased. Assuming that the inflation rate in UK is faster than the pace of depreciation of pound sterling, price of UK exports in terms of foreign currencies will increase, quantity demanded for UK exports will fall, hence UK export revenue will fall assuming demand for UK exports is price elastic, thereby causing the UK trade deficit to worsen instead of improving. (2)</p> <p>From Extract 5, “time lags arising from importers and exporters having to honor pre-existing contracts” suggests that firms cannot switch their suppliers in the short term (i.e. firms cannot increase demand for UK exports in the short term). Demand for imports and exports remain price inelastic due to time lags in the consumer's search for cheaper alternatives. Hence, despite the depreciation of the pound sterling, trade deficit did not improve because it takes time for UK consumers to switch their expenditure to the relatively cheaper domestic goods and services and for foreigners to switch their expenditure to the relatively cheaper UK exports. (2)</p>	[4]
d.	<p>With reference to Table 2, explain how you would expect the size of the multiplier to differ between the UK and Singapore.</p> <p>Gross savings (% of GDP) in Singapore is about four times that of UK whereas imports of goods and services (% of GDP) in Singapore is about five times that of UK. It can be inferred that the marginal propensity to save (MPS) and import (MPM) is much larger in Singapore than the UK. Since the size of multiplier =</p>	[3]

	1/marginal propensity to withdraw (MPW), where $MPW = MPS + MPT + MPM$, a larger MPS and MPM will thus lead to a larger MPW and hence a smaller size of the multiplier. (2) Thus, UK will have a larger size of multiplier as compared to Singapore. (1)	
e.	<p>Discuss the possible consequences of Brexit on households and firms in Singapore.</p> <p>Intro: Brexit resulted in the depreciation of pound sterling against the Singdollar (Extract 8) which will have an impact on Singapore households' material standard of living and firms' profitability.</p> <p>Body: Brexit may increase households' consumption of imported goods and service, increasing their material standard of living. The depreciation of pound sterling against Singdollar results in lower price of UK imported goods and services for households in Singapore. Assuming their income remains the same, purchasing power of households increase which increase their ability to consume a higher quantity of UK imports, thereby resulting in a rise in their material standard of living.</p> <p>Brexit may reduce households' material standard of living. British companies start to pull back on investment in manufacturing that will have a knock on effect on local support services (Extract 8). Ceteris paribus, the fall in foreign direct investments from the UK will lead to a fall in I, which will result in a multiplied fall in real GDP and increase cyclical unemployment in Singapore, thereby lowering material SOL as households face a fall in their disposable incomes as some members of their household who are employed in the local support services such as advertising, business and professional services, and financial services may be retrenched due to the fall in demand for such services.</p> <p>Evaluation: Given that the Singapore economy is at or near full employment, the fall in AD may result in the easing of demand-pull inflation instead, which will have a positive impact on households' purchasing power since it results in lower prices of goods and services and thereby households may enjoy higher material standard of living.</p> <p>Brexit may increase the profits of firms who depend on the UK for factor inputs. For example, companies like Hart Technology (Extract 8) will benefit from the lower price of imported goods from UK as it lowers the marginal cost of production from the lower input prices due to the exchange rate effect. Assume that these firms do not pass on the cost savings to the consumers, profits will increase. The extent of the cost savings that these firms achieve would be dependent on the proportion of the factor inputs that are imported from the UK.</p> <p>Brexit may reduce the profits of firms who export goods and services to the UK and/or derive earnings denominated in pound sterling. The pound sterling's free fall against most currencies is expected to hurt Asian exporters with strong exposure to UK markets (Extract 8). As the price of Singapore exports in terms of pound sterling increase, demand for Singapore exports fall, resulting in the fall in export revenue for firms who sell their goods and services to the UK. If cost remains the same, profits will fall. In addition,</p>	[8]

	<p>Singapore firms who derived earnings in terms of pound sterling will see a fall in their earnings when they were exchanged for Singdollar, thereby reducing the profits denominated in Singdollar of these firms.</p> <p>Evaluation/Conclusion:</p> <p>In the short term, both households and firms will benefit given Singapore's nature & state of economy. Moreover, since Britain is No. 22 on the list of Singapore's trading partners (Extract 8), its impact on Singapore exporters may be limited as UK may not be a significant export market. Firms who have put in place currency hedging measures to mitigate the downside risks of a falling pound sterling for their earnings in pound sterling will also be protected.</p> <p>In the long term, if Brexit were to negatively impact consumer and business sentiments across the EU, that would affect both households and firms in Singapore negatively since EU is a significant export market and source of FDI for Singapore.</p> <table border="1"> <thead> <tr> <th>Level</th><th>Descriptors</th><th>Marks</th></tr> </thead> <tbody> <tr> <td>L2</td><td>A balanced and well-explained answer that consider the impact of Brexit on <u>both</u> households and firms; and is well-supported by theory and case evidence.</td><td>4 - 6</td></tr> <tr> <td>L1</td><td>Response that only considers the impact on either households or firms or Brief answer which contains some listing and explanation that are theoretical and not well-supported by case evidence</td><td>1 - 3</td></tr> <tr> <td>E</td><td>For an evaluative conclusion on the consequences, taking into consideration the context and case materials. E.g. time period, type of firms etc.</td><td>1 - 2</td></tr> </tbody> </table>	Level	Descriptors	Marks	L2	A balanced and well-explained answer that consider the impact of Brexit on <u>both</u> households and firms; and is well-supported by theory and case evidence.	4 - 6	L1	Response that only considers the impact on either households or firms or Brief answer which contains some listing and explanation that are theoretical and not well-supported by case evidence	1 - 3	E	For an evaluative conclusion on the consequences, taking into consideration the context and case materials. E.g. time period, type of firms etc.	1 - 2	
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f.	<p>Assess the measures the government should adopt to address the loss of competitiveness in the UK.</p> <p>Intro:</p> <p>The fall in UK competitiveness may be attributed to: 1) Low productivity growth arising from inefficient training system as seen in Extract 7 which results in the mismatch of skillsets between what workers possess and what firms need, negatively affecting labour competitiveness and export price competitiveness; 2) Domestic infrastructural constraints (e.g. potholed and congested roads, poor business broadband from Extract 7) which increases the cost of doing business, thereby making UK less attractive as a destination for FDI inflows.</p> <p>The measures that the government should adopt to address the loss in competitiveness include: (1) improving labour productivity; (2) improving productivity through investment in transport infrastructure; and (3) lowering of corporate tax rate.</p>	[10]												

Body:**The Industrial Strategy seeks to boost productivity and earning power of people throughout the UK (Ext 7)**

The government seeks to create a new National Retraining Scheme that supports people to re-skill, beginning with a £64 million investment for digital and construction training. As workers acquire the requisite skillsets to work in higher value-added industries, the value of output will increase with the same amount of input, resulting in higher labour productivity which will translate to lower marginal cost of production for firms, hence allowing firms to pass on the cost savings in the form of lower prices of final goods & services which will thereby enhance export price competitiveness of UK exports.

The Industrial Strategy may not address the root cause of the problem (mismatch in skillsets) that could arise due to the poor receptiveness of the UK workers who are generally resistant to undergo retraining. As firms faced the constraints of acquiring workers with the requisite skill sets (Ext 7) since companies can't get the people they need because the training system isn't working to deliver for them, this hampered firms' ability to restructure their operations and thereby lowered the export price competitiveness of its goods and services.

The £1.7bn Transforming Cities Fund which aims to improve productivity through investment in transport infrastructure (Ext 7) will enhance the export price competitiveness of UK goods and services & attraction of the UK as a destination for FDI.

Investment in transport infrastructure will enhance productivity when congestion is eased. Workers take less time to travel and enjoy a less stressful journey to work, which may cause them to become more productive at work. Moreover, firms also enjoy cost savings for transport with less fuel burnt due to the more efficient road networks. These will translate to lower marginal cost of production for firms, hence allowing firms to pass on the cost savings in the form of lower prices of final goods & services which will thereby enhance export price competitiveness of UK exports.

In addition, improvements in transport infrastructure will spur FDI inflows due to the fall in the cost of doing business in the UK. Firms will be more optimistic of the future business outlook and expect profit margins to improve, thereby will increase their productive capacity by stepping up investments in the UK.

There is a long gestation period arising from the need to seek approvals from the community and local government before the projects can go ahead as well as the long construction time coupled with the added inconveniences due to road diversions/closures in the interim may lower UK competitiveness in the short term before benefits begin to materialize in the medium to long-term.

Lowering of corporate tax rates to 17% by 2020 (Ext 7) will also make UK more competitive in attracting FDI.

The lowering of corporate tax rates will increase post-tax profits for firms, increasing their expected rate of returns, thereby spurring FDI inflows into UK as it makes UK a more attractive destination for FDI as firms get to retain a higher level of profits from their investment returns in UK as compared to other countries.

FDI is often driven by other factors like market sentiments and stability of exchange rate. Given the uncertainties brought about by Brexit which weaken

	<p>both business & consumer confidence in the UK and the sharp depreciation of the pound (Ext 6), the cut in tax rates may not make UK an attractive destination for FDI.</p> <p>Synthesis and Conclusion</p> <p>Which measure to adopt will ultimately depend on which aspect of competitiveness the government should focus on. She can take into account the impact of Brexit as well as the fundamental problems faced by Britain (e.g. domestic infrastructural constraints) and may assess that the key to restore UK competitiveness may lie in the need to make UK remain attractive to FDI and foreign skilled labour inflows and thereby pursue measures to achieve that.</p> <p>Given that UK's lack of competitiveness stem mainly from "fundamentals", the most relevant policies would be measures that improve labour competitiveness and infrastructure as they target the root causes. However, as these policies have a longer gestation period, the government may need to complement them with more immediate policies like reducing of corporate tax rates to attract FDIs. This would be important in the short term given the current economic climate, where Brexit is likely to increase uncertainties and costs for foreign investors.</p> <p>All the above-mentioned measures will worsen the government budget position as UK will suffer from a double whammy of rising government expenditures to fund the various productivity-enhancing initiatives and falling government revenue from the lowering of corporate tax rates. Despite the improvement in government budget position in 2017, this is not expected to sustain moving forward. Increased indebtedness of the UK government will further worsen competitiveness going forward.</p>	
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Mark Scheme

Level	Descriptors	Marks
L2	A balanced and well-explained answer that considers TWO measures to address at least two aspects of competitiveness (e.g. export, investment, labour); and is well-supported by case evidence.	5 - 7
L1	Response is largely theoretical and limited in scope (only one measure or one aspect of competitiveness); OR Brief answer which contains some listing and explanation that theoretical and not well-supported by case evidence.	1 - 4
E	For an evaluative judgement that reaches a conclusion based upon consideration of the analysis and context; consideration of the effectiveness of each policy taking into account the main causes of the loss of competitiveness, state of the UK economy etc.	1 - 3

Suggested answers to 2018 VJC H2 Prelims Paper 2

Question 1

Electric Vehicles (EVs) that run on lithium batteries are gaining popularity due to the growing concern over air pollution. Advancements in EV technology has also led to cost improvements for carmakers.

Discuss the impact of the above events on the market for electric vehicles and its related markets. [25]

Introduction

Prices of electric vehicles and prices of its related markets are determined by demand and supply in a free market. Demand refers to the quantity of a good or service that consumers are willing and able to buy at various price, in a given time period, ceteris paribus. Supply refers to the willingness and ability of a firm to offer a good or service for sale at various prices in a given time period, ceteris paribus. This essay seeks first to explain how price and quantity of EV and its related goods can be affected by the various events and a conclusion can then be made about the total revenue of each market.

Body

1) Market for Electric Vehicles (EV)

Rise in demand for EVs due to change in taste and preferences

EVs are gaining popularity as governments worldwide are creating more awareness of the benefits to the environment of switching to EVs. This change in taste and preference towards EV will result in a rise in demand for EV as consumers increase their willingness to consume EVs, causing the demand curve to shift rightwards from D_1 to D_2 .

Rise in supply for EVs due to fall in marginal cost of production

Advancements in EV technology could lead to more innovative and cost efficient production processes. These improvements in production methods is likely to lead to a fall in marginal cost of production, resulting in an increase in supply as production is now more profitable and hence firms are more willing to supply the good. This causes the supply curve to shift rightwards from S_1 to S_2 .

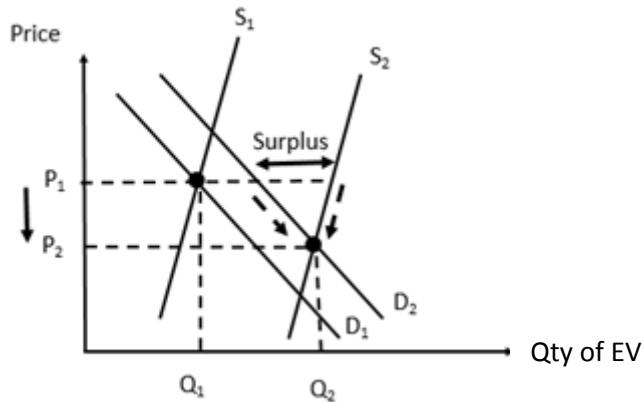
Impact on P, Q and TR

Extent of rise in supply is likely to be greater than the rise in demand of EVs

The rise in demand and rise in supply of EVs will lead to an unambiguous increase in the equilibrium quantity of EVs. However, the **impact on the equilibrium price will depend on the extent of the shifts in demand and supply.**

Currently, the DD for EV may be rising but to a smaller extent as consumers may not be very receptive to embrace the relatively new technology and a new type of vehicle. In addition, the lack of charging stations in the country may also make it less convenient to own an EV deterring consumers from switching. Government schemes to incentivize the use of EV may also have been introduced rather recently and it would take time for consumers to react and adjust their consumption patterns. On the other hand, with advancement in technology, the efficiency gains from improved methods of production may be significant such that marginal cost of production is significantly reduced, hence resulting in a stronger rise in supply.

$\uparrow DD < \uparrow SS$ will lead to \downarrow in equilibrium price and \uparrow equilibrium quantity.



Suppose the market is initially at equilibrium E with price P and quantity Q. The increase in demand and supply will cause the demand and supply curves to increase from D₁ and S₁ to D₂ and S₂ respectively.

Since the rise in supply is likely to outweigh the rise in demand, at the original price P, there will be a surplus, leading to a downward pressure on prices. As price fall, quantity supplied will fall (movement along S₂) and quantity supplied will rise (movement along D₂) until a new equilibrium is achieved at the intersection of D₂ and S₂. Hence, the new equilibrium would be at E' where the equilibrium price of EV will decrease from P₁ to P₂ while the equilibrium quantity will increase from Q₁ to Q₂.

$\uparrow DD < \uparrow SS$ will lead to overall \uparrow in TR

Holding demand constant, the rise in supply will result in a rise in TR. The fall in TR due to a fall in price is less than a rise in TR from a more than proportionate rise in Q given that **demand for EV is likely to be price elastic ($PED > 1$)** since EV is likely to take up a **high proportion of consumer's income**. Since the rise in demand will lead to an increase in TR since both price and quantity increases when demand increases, this reinforces the increase in TR arising from the rise in supply, causing TR of producers in the EV market to rise.

Evaluation:

In the **long run**, with governments across the world creating wide-spread awareness for greater mass appeal, the shift to electric vehicles will come faster and in a more pronounced way, fueled by technology advancements and regulation especially in China and Europe. Another consideration as to whether global demand for EVs will continue to rise faster will also be dependent on other factors such as implementation of more charging infrastructure for convenience and the performance appeal of EVs.

Alternative outcome: $\uparrow DD > \uparrow SS$

Extent of rise in demand is likely to be greater than the rise in supply of EVs

[C, E] The rise in demand and rise in supply of EVs will lead to an unambiguous increase in the equilibrium quantity of EVs. However, the impact on the equilibrium price will depend on the extent of the shifts in demand and supply.

The demand for EVs may be rising by a larger amount as governments are actively promoting the use of EVs. In China for example, EVs are exempt from licence-plate auctions in some Chinese cities, hence pushing more people to purchase an EV instead of fuel powered car as there is greater certainty of getting a car. In addition, with a more educated population, more people are becoming environmentally conscious and hence a larger proportion of consumers

will be more receptive to switch to EVs. A smaller rise in supply could be due to the other opposing factors that can offset the cost savings derived from the innovative process techniques such as rising wage costs especially if there is a need for higher skilled labour or costs of higher costs of producing other parts of the EV such as the use of higher quality materials for a lighter weight of the car body.

Suppose the market is initially at equilibrium E with price P and quantity Q. The increase in demand and supply will cause the demand and supply curves to increase from D₁ and S₁ to D₂ and S₂ respectively.

At the original price P₁, there will be a shortage, leading to an upward pressure on prices, since the rise in demand is likely to outweigh the rise in supply. As price rises, quantity supplied will rise (movement along S₂) and quantity supplied will fall (movement along D₂) until a new equilibrium is achieved at the intersection of D₂ and S₂. Hence, the new equilibrium would be at E' where the equilibrium price of EV will increase from P₁ to P₂ while the equilibrium quantity will increase from Q₁ to Q₂.

↑DD > ↑SS will lead to overall ↑ in TR

As both equilibrium price and quantity rise, the total revenue earned by EV car manufacturers will rise from P₁Q₁ to P₂Q₂.

2) Market for Lithium batteries

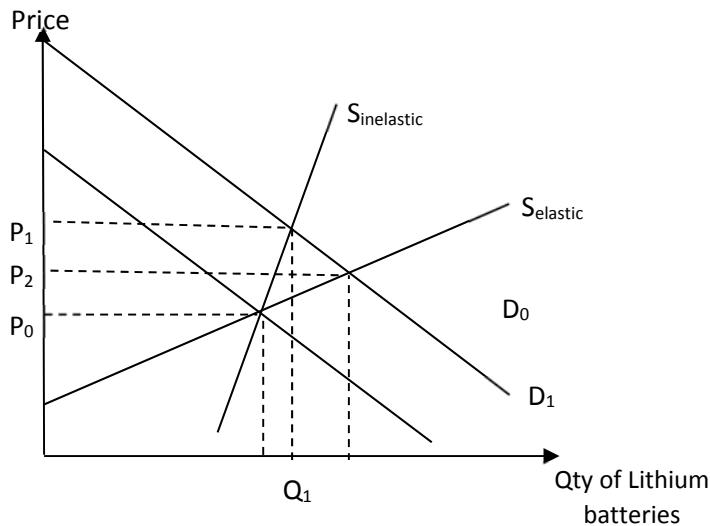
Increase in demand for EVs will lead to an increase in derived demand for lithium batteries, increase TR for producers in the market for lithium batteries.

Lithium battery is a **factor input** for EV. Therefore, with the increasing popularity of EV, the **derived demand** for lithium batteries that is used to power EVs will rise.

In the short run, we expect **PES<1** given the **long period of time needed to extract the lithium minerals** to produce the lithium batteries.

With the rise in demand from D₀ to D₁, there will be a shortage at the original price P₀, resulting in an upward pressure on the price of lithium. With the rise in price, suppliers would increase the quantity supplied whereas quantity demanded might fall as consumers may not be willing and able to pay the higher price. The movement along the (new) demand and (existing) supply curves continues until a new equilibrium is reached where the equilibrium price and quantity increases to P₁ and Q₁.

As both equilibrium price and quantity rise, total revenue earned by lithium producers will rise to P₁Q₁



Evaluation:

In the **long run**, the ability of mining companies to be more responsive to changes in demand will increase as there may be advancement in the mining technologies. Hence, supply of lithium batteries will be likely to be more price elastic and the extent of the rise in price of lithium batteries will be smaller in the long run and that will affect the extent of change in TR.

In addition, ceteris paribus may not hold in reality so alongside with rising demand for lithium batteries, battery makers may be working on new technology and chemistries that would affect the cost of production and hence supply and might cause the prices of lithium batteries to fall, affecting the outcome on TR.

3) Market for Fuel powered cars

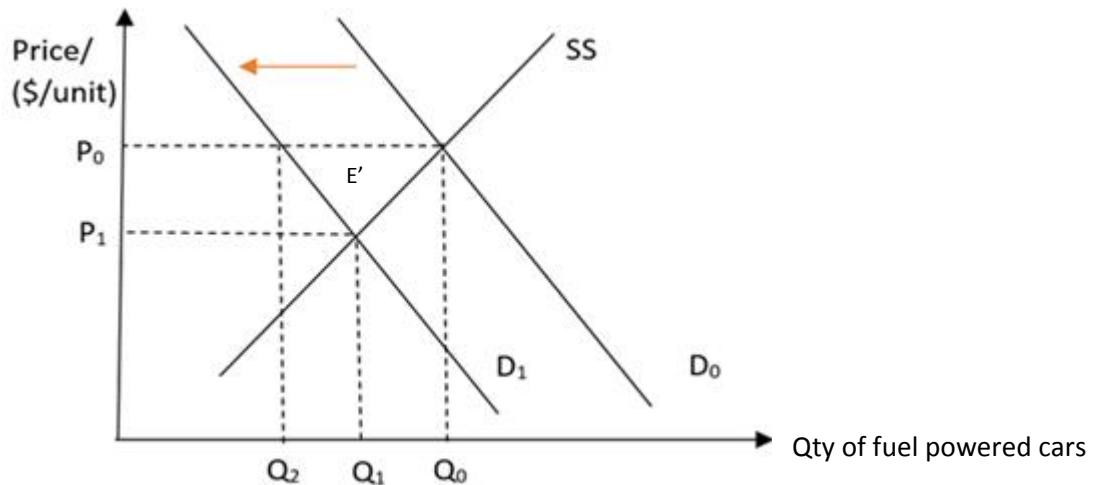
Change in taste and preference towards EVs will lead to a fall in demand for fuel powered cars causing a fall in TR for fuel powered cars manufacturers.

Due to the change in taste and preference towards EVs, this may result in an increase in demand for EV. Since **EVs and fuel powered cars are substitutes**, people will switch away from fuel powered cars, causing the demand to fall to D_1 .

At the initial equilibrium price of P_0 , the quantity supplied would be Q_0 but the new quantity demanded would be Q_2 , leading to a surplus of $Q_0 - Q_2$. This causes downward pressure on price and the consequent movement along the (new) demand and (existing) supply curves continues until a new equilibrium is achieved at E' where equilibrium price and quantity falls to P_1 and Q_1 .

It is also expected that **supply of fuel powered cars is likely to be price elastic** given that car in general is a manufactured good and assumed that there are already available factors of production such as workers, the raw materials and assembly lines in place. The elastic supply of fuel powered cars means that it is **very responsive to price changes**, hence just a **small change in price is needed in order for the surplus to clear**.

Since both price and quantity demanded will fall to P_1 and Q_1 , total revenue for fuel powered car manufacturers will fall to $P_1 Q_1$.



Evaluation:

If there are any changes to the cost of production that are significant enough to drive down the price of EV through a faster rise in supply, then this can reinforce the fall in demand for fuel powered cars as EV is a substitute. Given that $XED > 0$, a fall in price of EV will cause a rise in quantity demanded for EV and thus a fall in demand for fuel powered cars. However, the fall in demand for fuel powered cars may be limited in the short run as consumers may not be willing to make the switch to EV as the price of EV may still be very much higher compared to fuel powered cars despite the fall in price of EV.

In the long run though, we may expect XED to be of a higher value as consumers may be more aware that while electric cars will cost more up front than their fuel powered compatriots, in the long run, they may be cheaper to operate, especially when the biggest savings will be in fuel.

Conclusion

For the lithium battery and fuel powered cars market, the impact on total revenue is conclusive as it is only the demand factor that comes into place, affecting price and quantity demanded, *ceteris paribus*. As for the Electric Vehicle market, the impact on total revenue will very much depend on the extent of shift of both demand and supply. As of now, it is more likely to expect the extent of shift in supply to be greater than the shift in demand for EVs. Buying an EV requires consumers to adapt to a novel infrastructure and way of life. Most consumers still know relatively little about EVs. As such, the speed with which consumers become comfortable with the realities of EV ownership will have a significant impact on how rapidly this market expands thus affecting the extent of change in total revenue for the producers of EVs.

For the market for lithium batteries, in the long run, the impact on total revenue may not necessarily hold as supply of lithium batteries could change, depending on how much improvement is made in the extraction technology for mineral lithium which may affect the cost of producing lithium battery. If so, then the extent of shift of both demand and supply of lithium batteries in the long run will determine the total revenue for this market.

As for the market for fuel powered cars, car manufactures shouldn't expect a significant fall in demand at least in the short run as at present, the battery costs account for a large proportion of the EV cost and it is said that battery prices need to drop by more than half before EVs get competitive with cars powered by fuel. Therefore, for now, there should only be a slight fall in

demand for fuel powered cars despite the fall in price of EV hence only a slight drop in total revenue for fuel powered car manufacturers is expected.

Given the oligopolistic nature of the car manufacturing industry, there is strong mutual interdependence between firms, and hence they are very likely to avoid price wars and instead engage in non-price strategies like innovation. Hence, in the long run, there is likely to be more innovations and cost savings in the area of EVs causing SS to continue to increase further and overall TR to increase since demand for EVs are price elastic.

Mark Scheme

Level	Descriptors	Marks
L3	<p>Accurate and precise explanation of demand and supply factors to explain the impact on market price and quantity. Good discussion of the impact of total revenue (i.e. include elasticity concept PED and relative magnitude of change) for all 3 markets.</p> <p>Answers demonstrate a strong consideration of context of the EV and its related markets by providing relevant examples.</p>	18 - 20
	<p>For an answer which addresses the impact of the events on 2, of which one must be EV markets. Well developed and clear analysis (using DD-SS framework) of the impact of the events on the market price, quantity and TR (combined market adjustment and accurate application of elasticity).</p>	15 - 17
L2	<p>Answer attempts to link the events to the price, quantity and TR for 2 markets. Answer is generally correct but with some gaps in analysis (i.e. in application of elasticity concept, adjustment process)</p> <p>Or</p> <p>Answer clearly linked events to the market price, quantity with accurate market adjustment and elasticity application to ascertain the extent of price change, qty change for the 3 markets.</p>	12 - 14
	<p>For an answer that is relevant, but explanation of demand or supply factors and links to the equilibrium price and quantity for at least 2 markets may be under-developed (e.g. no market adjustment process, assert TR without explanation) or imprecise.</p>	9 – 11
	<p>For an attempt to address the question but response tends to be descriptive with only limited use of the DD/SS as a tool of analysis, undeveloped (assertions on price, quantity)</p> <p>For an answer that is mostly irrelevant – no recognition of question requirement. There could be listing of some demand and supply factors without explanation, some definition of demand and supply, price mechanism concepts.</p>	5 – 8 1 - 4
E3	<p>For an answer that uses contextualised analysis to support an evaluative conclusion on the impact on total revenue for EV market and two other related markets</p> <p>Insightful comments on overall impact on total revenue for the EV and</p>	4 – 5

	two other related markets which may include considerations of the current global trends, market structure, country context.	
E2	<p>For evaluative comments which shows some attempt to explain and support evaluative statement(s) made.</p> <p>Attempts to weigh the extent of shift of demand and supply to evaluate the overall impact on total revenue for EV market.</p> <p>Some attempts at considering the SR and LR impact of the events on P, Q or total revenue in one of the related markets.</p>	2 – 3
E1	For an answer that gives an unsupported evaluative statement on the impact on total revenue for the EV market and its related markets	1

Question 2

The number of mergers in the telecommunications industry has been increasing significantly. Following the merger between AT&T and Time Warner, US telecom giants T-Mobile and Sprint have also reached an agreement to merge and are now awaiting the approval from government antitrust regulators.

(a) Explain the characteristics which determine the market structure that telecommunications firms operate in. [10]

(b) Discuss the factors a government should consider when deciding whether to approve the merger of firms. [15]

Part (a)

Introduction

The characteristics of a market can be described by the level of barriers to entry, the number of firms in the industry, the level of market information and the nature of the product. Telecommunications firms operate in an **oligopolistic market structure** due to the **high level of barriers to entry** and the presence of **few dominant firms** which results in **rival conscious behaviour**.

Body

In the telecommunications industry, the level of barriers to entry (BTE) is high.

To operate in the telecommunications industry, a firm will require a **government license**. The number of government licenses issued is typically limited and a firm who wishes to enter the market will have to bid for the license. For example, in 2016 when the Singapore government announced that firms could bid for spectrum (i.e. radio frequencies to transmit sound and data) needed to provide mobile services in Singapore, only one firm, TPG Telecom TPG Telecom was successful and became Singapore's fourth, and newest, mobile operator.

There are also **high financial barriers** to entry. For the telecommunications industry, the setting up of the network infrastructure for broadband requires **huge initial capital expenditure and returns are uncertain**. These factors tend to **deter the entry of new firms** who are unable (due to huge capital expenditure) or unwilling (due to the high risks) to finance such investments. Even if the network infrastructure is built (e.g. 4G mobile airwaves), a telecommunications firms who wants to sell broadband services needs significant capital expenditure to bid for the airwaves. For example, in 2017, Singapore's four mobile operators took part in the General Spectrum Auction where one operator paid up to S\$500 over million to the Singapore government to use the 4G mobile airwaves.

In addition, the large set-up costs incurred from the investment in infrastructure like cable networks in the telecommunications market allows **substantial EOS to be reaped**, resulting in a very large Minimum Efficient Scale (MES); hence the incumbent firms tend to grow to a large size. Their low unit cost will pose as an entry barrier into the market because new firms with a small market share will not have a scale of production large enough for their unit cost to be sufficiently low, to be able to compete and survive against the larger incumbent firms.

The high BTE restricts new firms from entering, resulting in the telecommunications market being dominated by a few firms.

There are a few dominant firms which control a large market share hence display rival conscious behaviour.

In each telecommunications industry within a country, the high level of barriers to entry results in the existence of a few dominant firms. In the US for example, the market is dominated by major players like AT&T, Verizon, T-mobile and Sprint. These firms also display **rival conscious behaviour**, where each seller takes the actions and reactions of their rivals'

marketing strategy into account when making their own production and marketing decisions. This is because every action taken by any of the dominant firms is likely to affect all the other firms in the market significantly due to their large market share. Hence, firms are not merely called competitors but rivals. Each firm recognises that their rivals will notice any action it takes and hence they consider and are very sensitive to each other's' reaction. For example, when one firm offers lower prices for their high-speed fibre broadband package, rival firms counter offer almost immediately. In addition, rivals within the telecommunications industry also react to each other's actions through non-price competitive strategies such as advertising and offers on after-sales services.

The high levels of barriers to entry and rival conscious behaviour are key features of an oligopolistic market structure. Apart from these characteristics, the telecommunications market also exhibits the other features of imperfect information and differentiated products.

The level of information in the market is not perfect, as consumers do not have perfect knowledge of the quality of services available in the communications industry.

[C, E] For example, consumers do not have perfect knowledge about the actual broadband speed he/she has subscribed to. Consumers do not have perfect information about the exact factor costs of providing each communication medium.

There is some degree of differentiation in terms of the nature of the service provided by the telecommunications firms.

While the nature of the service provided by telecommunication companies may be regarded as largely similar where they provide mobile, internet and broadband services, there is some degree of differentiation. For example, there may be some differences in terms of the mobile and broadband plans they offer, roaming packages the telecommunication firms offer and the quality of the service they provide.

Conclusion

In conclusion, the key features of high barriers to entry resulting in few dominant firms exhibiting rival conscious behaviour allows us to conclude that the telecommunications industry operates in an **oligopolistic** market structure.

Mark Scheme

Level	Descriptor	Marks
L3	Well-developed explanation that links at least 2 characteristics of an oligopoly to the telecommunications industry. Must include BTE point and rival conscious behaviour.	8 - 10
L2	Under-developed explanation that links the characteristics of an oligopoly to the telecommunications industry. Answer attempts to apply to the telecommunications industry.	5 – 7
L1	An answer that shows some knowledge of the characteristics of a market structure.	1 - 4

(b) Discuss the factors a government should consider when deciding whether to approve the merger of firms. [15]

Introduction

When deciding whether to approve the mergers of firms, the government will weigh the benefits and costs of the mergers to determine the extent to which the merger can lead to an improvement in society's welfare. In determining the extent of the benefits and costs to society, the government will need to consider factors such as the extent to which the merged firm will

experience greater market power; the degree of contestability in the market; and the extent of EOS the merged firm can reap.

Body

A government would consider the extent to which the merger leads to greater market power for the merged firm.

This could be determined by considering the market shares of the firms which are merging or the initial market concentration prior to the merger. If the firms that are merging each has a substantial share of the market or that the market was already highly concentrated, then approving the mergers would likely increase the market power of the firms further, lessening competition in the market.

For example, a government will likely consider the market share of AT&T and T-mobile should the two firms decide to merge. Given that the two firms are the second and fourth largest mobile carriers in America, a merger between them would lead to substantially greater market power for the merged firm. In contrast, if supermarkets Lidl and Iceland with 2% and 5% of market share in the UK respectively merge, the extent of the increase in market power will not be that substantial and will not significantly result in substantial lessening of competition.

The extent of the increase in market power of the merged firm is an important consideration as it affects society's welfare.

Greater market power will affect efficiency and equity in the following ways:

1. The greater the market power the merged firm experiences, the less competitive the market becomes, resulting in **greater allocative inefficiency**.

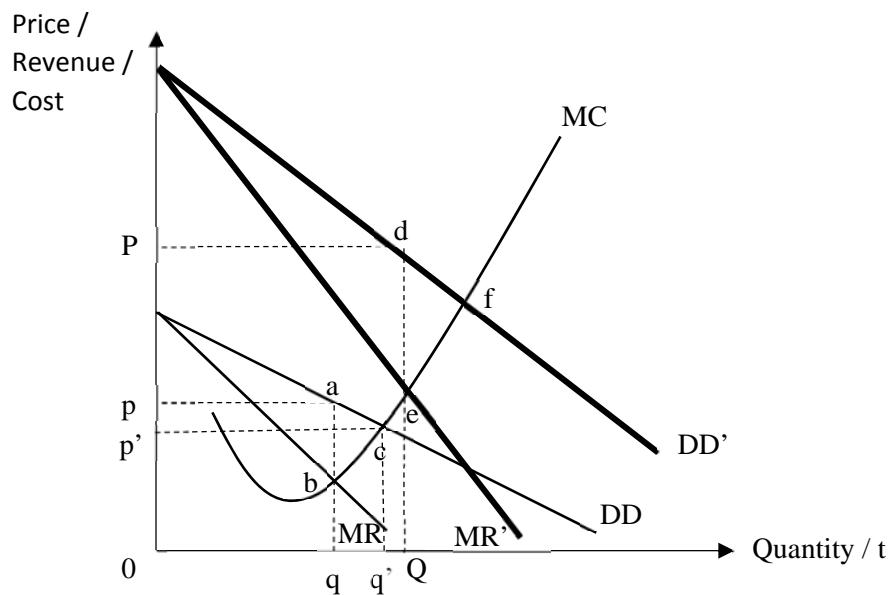


Fig. 1: Welfare loss from increased market power

The merged firm with increased market power now enjoys higher and more price inelastic demand for its products. Hence, there is **greater welfare loss** due to market power. With reference to Fig 1, before the merger, there was underproduction since for the units between the profit maximising output level (q) and the allocative efficient level (q') and $P > MC$. From units, q to q' the additional benefit > additional cost and there will be a net benefit to society of area

abc if these units were produced. By restricting output to q , the firm has caused welfare loss to society as measured by the loss in the potential net benefit of area abc. After the merger, there is greater allocative inefficiency and welfare loss; the welfare loss has increased from area abc to area def.

2. The greater the market power the merged firm experiences, the greater its ability to profitably raise prices, leading to exploitation of consumers because of higher price charged and greater profits earned, which results in **greater inequity in income distribution**. The merged firm will have higher and more price inelastic demand. With reference to Fig 2, consumers are now charged a higher price of P' , while firms enjoy an increase in profits from $[(P-AC) \times q]$ to $[(P'-AC') \times q']$. This worsens inequity between consumers and firms, and since shareholders of firms are more likely to be middle- or high-income households, inequity in income distribution between households worsens.

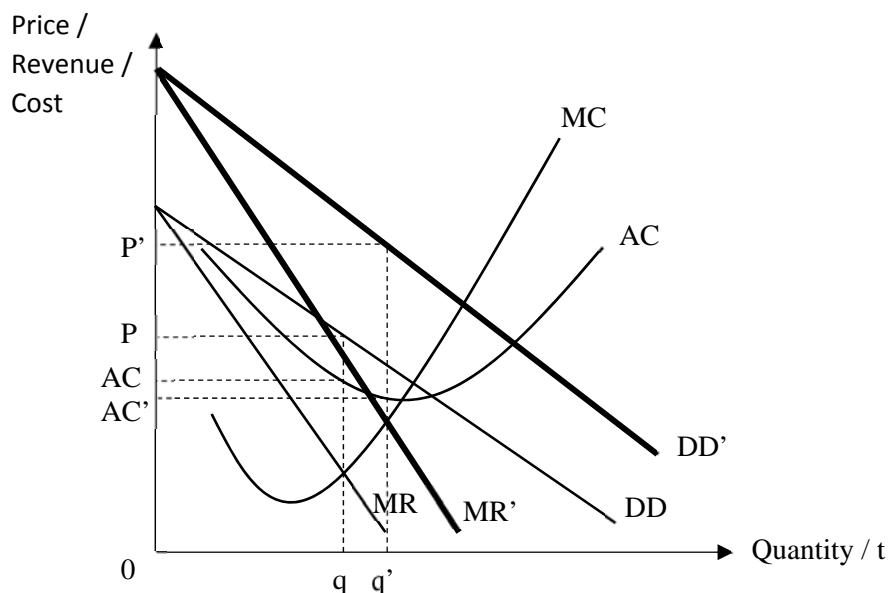


Fig. 2 – Increase in firm's profits with higher market share

3. The greater the market power the merged firm experiences, the greater its ability to conduct R&D which results in **greater dynamic efficiency**. R&D tends to be costly and inherently risky with uncertain results. Merger can result in lowered costs (assuming the new firm can enjoy EOS from a larger scale of production) and increased profits earned (as analysed in the previous paragraph) which allows the merged firms to have greater ability to undertake investments in R&D. This results in process (or product) innovation, which enhances dynamic efficiency and improves society's welfare over time. For example, if the government were to allow telecommunications companies to merge, the additional profits earned can be channelled into R&D projects to develop more cost-efficient technology in providing telecommunications services. These innovations can result in benefits to consumers who enjoy better quality services.

Evaluation:

It may be difficult to determine the extent of market power of the merged firm as it hinges on the definition of the market. In some cases, government regulators and merging firms may have very different interpretations of the market the merging firms are competing in, making it difficult to come to a consensus on the extent of market power of the merged firm. For example, in the recent merger between Grab and Uber, the Competition and Consumer Commission of Singapore (CCCS) found the merger to result in substantial market power as

the merger led to increased market power for Grab in the market for ride-hailing services as Uber was its closest competitor. Grab on the other hand viewed the market as being too narrowly defined; it saw itself competing in the market for point-to-point transport instead, where this broader definition would mean that the merger would not have led to substantial increase in market power, given that there are still many substitutes available, ranging from taxis to other form of public transport.

In addition, the extent of market power attained by the merged firm could vary depending on the new geographic market of the merged firm's product or service, i.e. whether it is traded internationally or purely within the domestic market. If the good/service in concern is one that is internationally traded (e.g. electronics), then the merged company is still likely to face competitive pressures from foreign firms which restricts the increase in the merged firm's market power. On the other hand, if the good sold caters mainly to the domestic market (e.g. telecommunication services), the merged firm faces less competition hence there will be greater increase in market power for the merged firm as there would be limited substitutability in the event of a price increase.

A government would also consider the degree of contestability of the market following the merger.

The theory of contestable market argues that the crucial determinant of the price and output behaviour of firms depends on whether there is credible threat of competition; the number of firms in the market is irrelevant. Hence, even if the market is already concentrated and a merger would increase the market power of the merged firm, as long as there is a high degree of contestability where the credible threat of potential competition is high, firms will still behave competitively. The high level of competitive pressure prevents firms from abusing their market power; firms may still behave competitively, setting low prices. This allows the market to achieve close to the benefits of competitive markets, where there is likely to be less allocative inefficiency as firms charge a low price to maintain competitiveness due to the threat of competition; there is also less X-inefficiency as firms are less complacent and would strive to be cost-efficient given the threat of competition.

Hence, in deciding whether to approve mergers a government would not only consider the degree of market concentration but also the degree of contestability of the market following the merger.

Evaluation:

The degree of contestability may differ depending on the type of merger. Mergers that allow firms to have possession of exclusive rights enabling the firm to gain control of the supply of the good, causing the market to be less contestable post-merger. Hence, mergers that involve the integration of firms in different stages of production (i.e. vertical integration) might lead to a less contestable market as compared to mergers of firms in the same stage of production (horizontal mergers) as the former gives existing/potential firms less access to the previous stage of production increasing the barriers to entry.

A government would also consider the extent of EOS the merged firm can reap as these may be passed on to consumers leading to lower prices.

When a firm expands through merger, the increased scale of production enables it to use a bigger plant, resulting in technical EOS. For example, for a food processing firm, it can enjoy EOS from a bigger warehouse due to the principle of increased dimensions – storage space rises more than in proportion to construction costs.

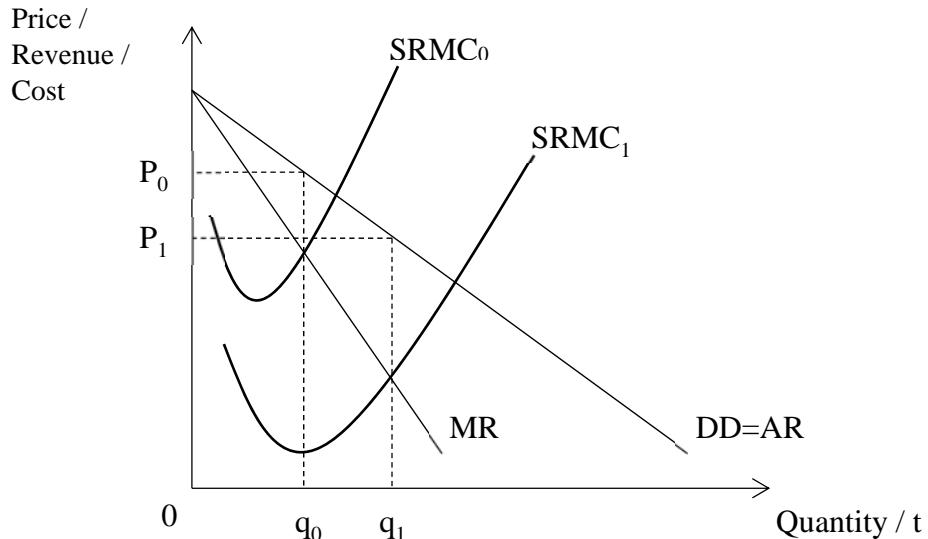


Fig 3 - Cost savings from merger

As the merged firm experiences greater EOS, the firm may enjoy cost savings. In the short run, this is illustrated with the fall in marginal cost from MC_0 to MC_1 in Fig 3. Assuming the merged firm passes on its cost savings to consumers, consumers pay a lower price of P_1 , corresponding to the new profit-maximising output of q_1 , increasing consumers' welfare. The lower price also makes the good more affordable for consumers, especially the poor, improving equity in distribution of goods as the low income households are better able to access the good.

Evaluation:

While firms may reap EOS, whether consumers eventually gain depends on whether firms pass on these cost savings to the consumers. This may depend on the PED of the good. If the good has many close and available substitutes, the demand for the good is more price elastic. This means that there is a higher chance for firm to pass on the cost savings to the consumers since a fall in price will lead to more than proportionate rise in quantity demanded, causing total revenue to increase.

Conclusion

Overall a government would need to consider the factors above when weighing the benefits and costs of mergers, in terms of their impact on efficiency and equity. The importance of these factors discussed above may vary from industry to industry and from country to country.

For example, greater market power enjoyed by the merged firm may affect the different efficiency concepts and equity differently. Whether having greater market power is beneficial or detrimental to society's welfare will depend on the degree of importance the government places on these areas of efficiency and equity, which in turn depends on the **nature of the industry/type of good**, as well as the **priorities of the government**. As a merger is likely to result in sustained supernormal profits which worsens equity, the government is unlikely to approve of mergers in industries which provide necessities like healthcare services since ensuring equity would be crucial in such markets. On the other hand, in the case of the pharmaceutical industry, R & D and hence dynamic efficiency is critical for the development of new and better drugs, hence the government is more likely to approve the merger of firms in this industry as the supernormal profits will allow the merged firms to have greater ability to conduct R & D.

The decision on whether to approve or reject mergers might also change over time due to globalisation and technological advancement. With globalisation and technological

advancement, markets tend to be more dynamic in nature which means that level of contestability may change over time.

While these are the factors the government would consider, it would be difficult to accurately determine some of these impacts because of the lack of information and the need to speculate and forecast the possible impacts of the merger on the market. The dynamic nature of some markets may also increase the difficulty of forecasting the effects of merger, for example the sharing and technology markets which are dynamic and constantly evolving.

Mark Scheme

Level	Descriptor	Marks
L3	A well-developed answer that is framed as the factors which the government would consider when deciding whether to approve the merger of firms.	8 - 10
L2	An under-developed answer which discusses the factors which the government would consider when deciding whether to approve the merger of firms. Gaps in explanation, minor flaws in analysis.	5 - 7
L1	A brief answer that shows some knowledge of the how the merger affects efficiency and equity. Answer contains inaccuracies in analysis.	1 - 4
E3	For a conclusion which evaluates and weighs the various factors a government would consider when approving the merger of firms. Includes a well-substantiated judgement and analysis of arguments raised. Uses examples to contextualize judgement.	4 - 5
E2	For a conclusion that attempts to evaluate or weigh the various factors discussed in the essay	2 - 3
E1	Unsubstantiated judgement about the factors which the government would consider.	1

Question 3

With access to quality schooling and information on the Internet, most Singaporeans are educated on various issues, ranging from the risks of excessive plastic use to being a more discerning buyer of second-hand cars. However, there remains hurdles that prevent Singaporeans from making well-informed choices.

- (a) Explain why a government might intervene in the above cases. [10]
- (b) In light of the above-mentioned, evaluate the policies that the Singapore government can adopt. [15]

Part (a)

Introduction: Outline the main sources of market failures

Market failure refers to the failure of the free market to allocate resources efficiently and/or distribute output equitably. Allocative efficiency occurs when society's welfare is maximised. Concerning the use of plastic bags and buying and selling of second-hand cars, allocative inefficiency arises from the presence of **negative externalities** and **information asymmetry (adverse selection)** respectively. Hence, governments may intervene in these markets, to achieve a more efficient allocation of resources.

Body

Government intervenes to influence the use of plastic as negative externalities from the consumption of plastic can lead to welfare loss.

Negative externalities are **external costs** that accrue to **third parties** who are not involved in the economic transaction. When consumers in Singapore use the non-biodegradable plastics, they often discard them irresponsibly such that plastic wastes result in pollution problems for the larger global community. Third parties such as other Singaporeans involved in the trading and selling of seafood, not involved in the consumption and provision of plastics, are affected as they lose out on substantial incomes as fishes die from plastic pollution.

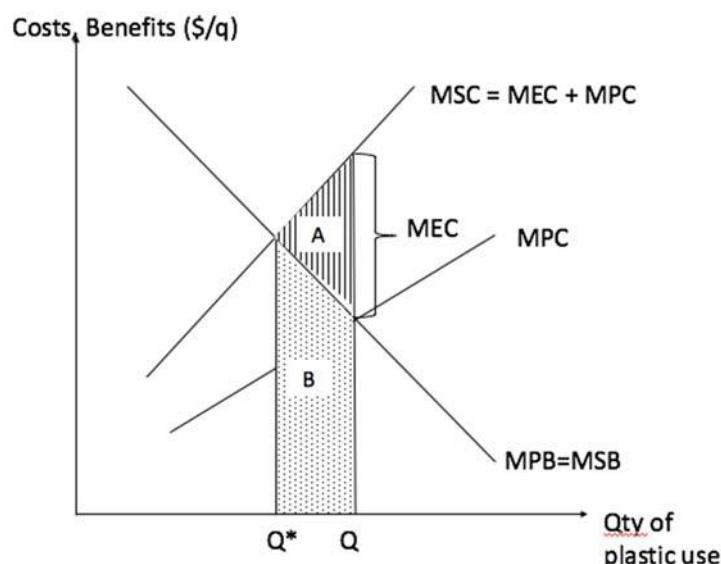


Fig 1: Welfare loss due to negative externalities

The marginal private benefit (MPB) of consuming an additional unit of plastic is the value and convenience that users enjoy in storing and carrying goods. The marginal private cost (MPC)

of consuming an additional unit of plastic is the price that consumers pay to purchase it. The **presence of the marginal external cost (MEC)** i.e. additional cost from consuming an additional unit of good to third parties creates a **divergence between the marginal social cost (MSC) and MPC** of using plastic, where MSC is higher than the MPC by MEC. *Assuming no external benefit*, marginal social benefit (MSB) = MPB. A consumer seeking to *maximise his own private interest* would disregard the external costs of plastic consumption, and consume till $MPB = MPC$, i.e. private **equilibrium is at Q where $MPB=MPC$** . (Fig. 1).

However, **socially optimal level of output is Q^* at $MSB = MSC$** where society's welfare is maximised. This leads to an **over-consumption of QQ^* units**. Total social costs of consuming QQ^* units will be Areas A + B, and is greater than the total social benefit is only Area B. Hence, the overconsumption of QQ^* units will lead to **welfare loss of Area A**. Thus, a government is likely to intervene by taxing consumption of plastic use in a bid to eliminate market failure, in the form of welfare loss (Area A), so as to achieve allocative efficiency.

Government intervenes in the second-hand car market as adverse selection stemming from information asymmetry can lead to welfare loss.

Information asymmetry arises when one side of the market, either the buyers or sellers, have better information than the other. When both buyers and sellers are perfectly informed about the quality of the goods traded in the market, the prices will adjust to reflect quality differences. With full information, both markets are allocative efficient since the goods go to the people who value them the most.

In the case of the second-hand car market, the sellers are more knowledgeable and have more information about the traded cars than the uninformed buyers. For example, the buyers are not privy to information about the condition of the car and possible car defects as the sellers wanting to fetch the highest possible selling price for their cars are not incentivised to fully disclose all information about the car. Therefore, **adverse selection** occurs as the **uninformed buyers** end up having to **choose from an undesirable or adverse selection of goods**, which is not socially optimal.

When second-hand car buyers do not know whether the cars they are buying is of high or low quality, the tendency is for the market to be dominated by low quality cars that need frequent repairs, also known as the 'lemons'. This is because facing lack of information as to whether a car is a cherry (i.e. high quality) or a lemon, a buyer treats all car to be of medium quality and will be only willing to pay the average price for an average quality of car. As a result, the sellers willing to sell the higher quality cars at higher prices will exit the market, reducing the average quality of used cars in the market. Over time, the increased presence of low-quality cars in the market will further lower the prices that consumers are willing to pay. The decrease in price will further decrease the number of high quality cars supplied. In this case, asymmetric information generates a market in which some high quality cars are sold, but fewer than what would be sold in a market with perfect information, resulting in welfare loss.

In the most extreme case, the downward spiral in prices may continue causing the number of high quality cars sold to drop to zero, resulting in no possible trade of high-quality second-hand cars. This leaves the market with only lemons due to asymmetric information. The market fails and is allocative inefficient as **welfare loss is incurred** when **mutually beneficial trade of high quality second-hand cars cannot take place**. The sellers and buyers cannot overcome the information gap to trade at the prices that satisfy both their willingness to pay and sell.

Mark Scheme

Level	Descriptors	Marks
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L3	A well-developed answer which thoroughly explains how market failure arises from both negative externality and adverse selection, with illustration of contextualised examples of MEC, MPB and MPC. For clearer illustration of the source of market failure, the answer should include an accurately drawn diagram for market failure in the case of negative externality.	8 - 10
L2	An undeveloped answer with some gaps in analysis for how negative externality AND adverse selection leads to market failure. OR Answer addresses only ONE source of market failure.	5 - 7
L1	Some knowledge of market failure (e.g. negative externality, adverse selection) but mainly unexplained assertions.	1 - 4

Part (b)

Introduction: Outline the main policies to address the 2 sources of market failure

In addressing both sources of market failure, the government can impose taxation on plastic use, ban plastic use and enact laws and regulation in the second-hand car market. The effectiveness of the policies depends on the nature of the good in question and the characteristics of the country.

Body

The Singapore government may adopt taxation to address the allocative inefficiency resulting from the overconsumption of plastic.

Taxation will help plastic users **internalize the MEC of plastic use** and reduce their consumption of plastic. The government can impose **taxes on the plastic consumption equal to the MEC at the socially optimal output level, Q^*** . In doing so, the MPC rises to MPC' (Figure 2) as consumers have to also pay taxes on top of the cost of plastic use now. Motivated to maximise their private utility, consumers will now consume plastic at output levels, Q^* where $MPC' = MPB$ thereby achieving allocative efficiency. Taxation can effectively align private interests with that of the society's and cause the elimination of the welfare loss associated with the overconsumption of plastic as it can reduce consumption from Q to the socially optimal level, Q^* .

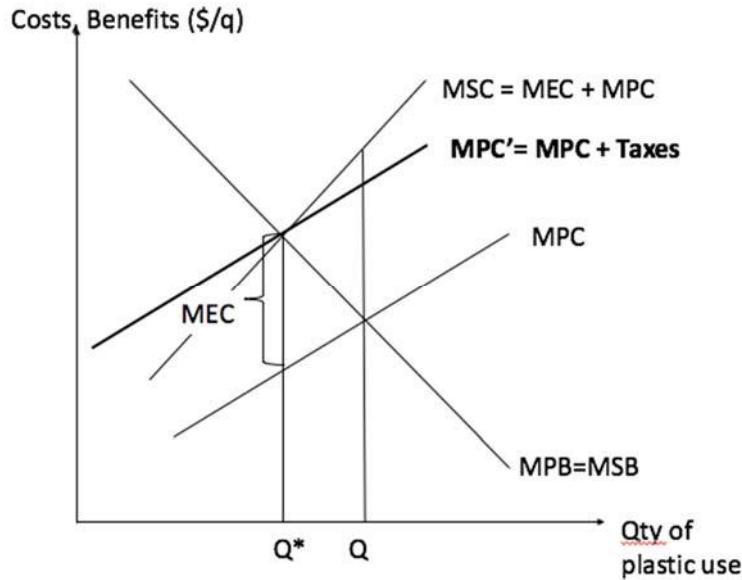


Fig 2: Taxing the use of plastic

Evaluation:

While Singapore is a developed economy where data collection can be done with greater ease and reliability, it is still **difficult for government to estimate the MEC accurately**. The external costs suffered by third parties are not easily quantifiable and accurate data for such are hard to come by. As a result, the government may still under-/over-estimate the MEC resulting in over-/under-taxation, worsening the market failure.

The effectiveness of a tax on plastic will depend on the price elasticity of demand for plastic. For example, a plastic bag tax which is 5 to 10 cents per bag takes up a very **small proportion of an average Singaporean's income**, thus in this case the **demand for plastic bag is likely to be price inelastic**. This means that the tax is likely to be ineffective as consumers will not be very responsive to the tax causing the fall in quantity of plastic bags used to be insignificant. Hence, a higher tax may be required to cause a desired fall in quantity of plastic bags used by consumers.

The Singapore government may use a total ban on plastic to address the allocative inefficiency resulting from the overconsumption of plastic.

The government can choose to eliminate the externality by banning the consumption of plastic. For example, the government can ban the sales and free provision of plastic bag at supermarkets. When the regulation is in effect, the consumption of plastic products will fall to zero, at Q_{ban} (Figure 3) and there will be an improvement in welfare loss for the society. Prior to the ban, the welfare loss resulting from the overconsumption of QQ^* is represented by area cde. When the ban is imposed, the consumption of plastic bags will fall to 0 and the welfare loss stemming from the under-consumption is now represented by area abc. While there is still a welfare loss and society is not at the social optimal level of plastic consumption, the area of deadweight loss is reduced. Ban is particularly effective when the marginal external cost is increasingly large when consumption level of plastic rises, as reduction of consumption to 0 will result in a welfare improvement.

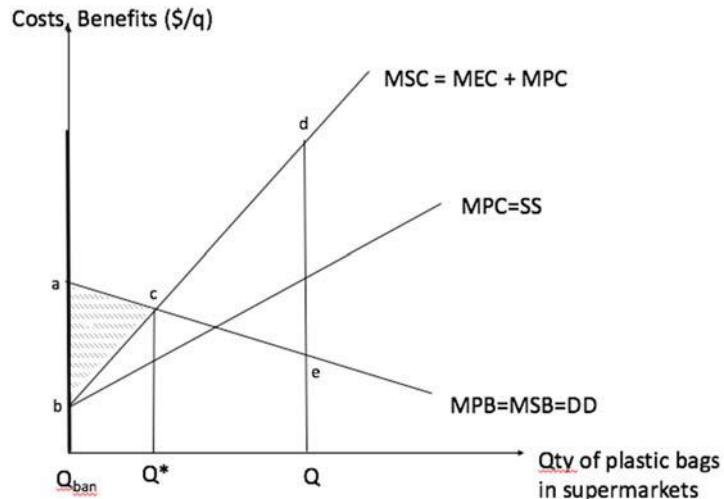


Fig 3: Banning the consumption of plastic bags at supermarkets

Evaluation:

A total ban is easy to implement in the Singapore economy. Given strong institutions, Singapore can effectively enforce and punish undesirable behaviours to yield a certain outcome of zero consumption and sales of plastic bag. However, it might still not make sense to impose a total ban on plastic use as it does not impose a high enough a MEC at higher quantities of consumption (unlike drugs consumption) to merit a total ban. The welfare loss may actually be higher given the ban as consumers are deprived of the convenience of using plastic products in society.

The Singapore government may adopt laws and regulation to improve allocative efficiency arising from adverse selection in the local second-hand car market.

The root cause of market failure in the second-hand car market is that buyers are unable to ascertain the good-quality from the bad-quality products. The government can regulate the quality that producers have to meet by enacting laws and legislation such as '**Lemon Law**' which forces producers to replace defective cars.

In March 2012, the Singapore government passed a new act to strengthen consumer protection, allowing second-hand car owners to either request repairs for defective car parts or even seek a price reduction or full refund of the lemon car bought. This enactment of the law will encourage sellers not to conceal their knowledge about the car as sellers will know that **any violations will result in penalties**. These will act as an **effective deterrent** to prevent sellers from selling defective cars and will incentivise the sellers of defective cars to disclose the full information about its products. As a result, the consumers' perceived costs and benefits of purchasing the used car reflects the true cost and benefits at the point of transaction. This will prevent information asymmetry from resulting in only lemons being traded in the local second-hand car market, thus addressing the root cause of the problem. The 'Lemon Law' increases consumer confidence that the product purchased is not a lemon, hence has the effect of increasing the output of high quality cars being sold in the market, preventing a missing market for high quality cars, hence reducing allocative inefficiency.

Evaluation:

Regulation is an appropriate policy to address the problem of adverse selection as it requires or incentivises sellers to reveal the quality of the product being sold. As cars are mechanically complex products, it is particularly difficult for consumers to determine when or why faults develop. Therefore, the problem of information asymmetry in the second-hand car market is significant. The problem is further compounded by the fact that cars are an exceptionally high-

value item due to quota regulation via COE in Singapore. Therefore, the enactment of effective regulation to protect consumers from making wasteful big-ticket purchase is crucial as this can ensure a more equitable and fair transactions of second-hand cars from taking place in the market.

Conclusion:

The government should adopt different policies to address the two sources of market failures. To curb overconsumption of plastic, taxation is the more effective and appropriate measure. To deal with adverse selection, lemon law is appropriate for the Singapore's context.

Taxation is a preferred measure over total ban of plastic use in Singapore because of the nature of the good. While plastic use results in negative externality, the MEC is not high enough to warrant a total ban of the product in society. Therefore, a sweeping ban will more likely result in a government failure than an improvement in society's welfare. While there might be possibility of misinformation causing the tax amounts to be too high or too low, the government can overcome the limitation of information by conducting more economic studies into the cost and benefits of plastic use. Moreover, the Singapore government can also use the tax revenues to mitigate and minimise the negative impacts on society arising from plastic pollution. Therefore, it is the more effective and more appropriate measure for Singapore.

To make taxation an even more effective measure in the case of a tax on plastic bag in Singapore, given that demand is price inelastic, the government may need to implement policies to change consumers' behaviour and attitude for its use. If the government successfully convinces the population to see recyclable shopping bags and Tupperware as substitute for disposable plastics, the imposition of taxes and consequent price increase will cause a more significant fall in quantity demanded of plastic to improve allocative efficiency. Lemon law is also a good measure to apply in Singapore for the second-hand car market. Given our unique COE regulations applied in the car markets, cars are very expensive locally. Therefore, when sellers take advantage of the information asymmetry to fetch high prices for their poor-quality cars, the buyers will be impacted very adversely. In addition, it is also easy to implement lemon law in Singapore as the existing legal institutions are established and strong such that the enforcement of the law can be ensured.

Mark Scheme

Level	Descriptors	Marks
L3	A well-developed answer which thoroughly explains at least 2 government measures to address market failure for both cases (second-hand car market and plastic use) in the context of Singapore.	8 - 10
L2	An undeveloped answer which explains how government measures achieve improvement in allocative efficiency for only ONE source of market failure. Some theoretical gaps in the explanation of the measures.	5 - 7
L1	Knowledge of various government measures (either command or market-oriented measures); unexplained assertions.	1 - 4
E3	Able to consider the context of Singapore, extent of market failure / nature of good and weigh between at least 2 policies to conclude which policy is more effective or appropriate to address the market failure.	4 - 5
E2	Attempts to consider the limitations of the policy, points raised are applicable to the Singapore context.	2 - 3

E1	Answer with unsubstantiated conclusion	1
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Question 4

(a) Explain the information an economist would require to determine whether the standard of living in a country has improved over time. [10]

(b) Discuss why governments may need to choose a mix of policies to achieve a high standard of living. [15]

Part (a)

Introduction

Standard of living (SOL) in a country can be measured in terms of 2 aspects – **material and non-material well-being**. Material well-being stems from the **consumption of goods and services** and is measured using a country's national income indicators. On the other hand, non-material well-being is related to the **quality of life that stems from intangibles**, such as amount of leisure time, pollution levels, state of the environment.

Body

Information on real GDP per capita can be used to measure the improvement in material aspects of living standard in a country.

Gross Domestic Product (GDP) refers to the total money value of all final goods and services produced by factors of production located within a country's geographical boundaries, during a given period of time. **Real GDP** refers to GDP that has been **adjusted for inflation** (i.e. the effects of inflation is eliminated). This means that the value of final goods and services are measured at constant prices and hence any increase in real GDP reflects a rise in quantity of goods and services produced and hence a rise in quantity of goods available for consumption, leading to an increase in material living standards.

Apart from real GDP data, to measure SOL in a country, information on the size of the population or population growth rates will also be required so that **real GDP per capita** data can be obtained. Real GDP per capita **divides GDP by the total population** in the country, reflecting the average income available to citizens for the purchase and consumption of goods and services. It is used because if for example population growth rate is 5% but real GDP growth rate is only 2%, then the individual's share of real national income will be falling as the increase in national income is shared by a much larger population. An increase in real GDP per capita would imply that individuals have **higher purchasing power** and hence would be able to **consume more goods and services**, leading to **higher material living standards**.

In addition, an increase in real GDP per capita also means that governments can collect more tax revenue, and hence can likely spend more on sectors such as healthcare and education systems. This may increase the quantity of healthcare and education services available for consumption, leading to higher material living standards for residents. Higher real GDP per capita may also reflect an improvement in non-material well-being as the increase in tax revenue would mean that the government may have more budget to spend on improving the intangible aspects like the quality of the environment.

Other than real GDP per capita, information on the income distribution provided by the Gini coefficient would be useful for a more accurate interpretation of the change in living standards.

Real GDP per capita only provide an indication of the average income per person and hence increases in real GDP per capita may **not reflect an increase in income of all residents equally**. For example, while emerging economies like China experience increases in real GDP per capita, the increase in income is usually concentrated in the hands of the rich minority. Hence, the economic well-being of the typical individual may not have improved, and the

increase in real GDP per capita would have overstated the rise in the average's person material well-being.

Thus, the **Gini coefficient**, which measures the **degree of inequality in income distribution** helps to assess the extent of income inequality in the country, and can be used to supplement GDP data to give a more accurate interpretation of improvements in SOL. The Gini coefficient takes on a value between 0 to 1; the greater the Gini coefficient and the closer it is to 1, the greater is the income inequality within the country. A fall in the Gini coefficient reflects an improvement in the income distribution in Singapore and hence would more accurately reflect a higher material living standard for the average person when real GDP per capita increases.

Indicators that reflect non-material living standards will also be necessary for a more comprehensive measure of the change in SOL.

Income statistics do not reflect non-material well-being, hence does not give a complete measure of SOL. The increase in real GDP per capita can be at the expense of air quality due to rising pollution alongside increases in production and consumption. In India, agricultural activities lead to the burning of forests as farmers set fire to clear the fields for planting crops leading to air pollution; the burning of fossil fuels in factories for production of goods and services is another source of air pollution in India. The air pollution results in negative externalities, worsening the quality of environment, lowering the non-material living standards of residents in India. Hence, if increase in real GDP per capita is accompanied by increase in pollution, then the resultant rise in national income would overstate the rise in the overall living standards of residents. Therefore, indicators like **air pollution index** which shed light on the quality of the environment will provide information on the non-material aspects of living standard, giving a more complete and accurate measure of SOL.

Apart from pollution index, indicators like the **total number of hours worked per worker** will also be useful in providing information on the intangible aspects of the quality of life of residents in the country. Increases in real GDP may arise as a result of people having to work harder or longer hours. For example, while South Korea has been experiencing increases in real GDP, its citizens currently work the longest hours; as long as 68 hours a week. This not only leads to citizens having less leisure time, it also increases the chances of them getting strokes and heart attacks as a result of the more hectic and stressful life. In this case, the increase in real GDP would overstate the improvement in SOL as individuals are enjoying a lower quality of life in terms of the non-tangible aspects. Hence, such information is needed to give a **more complete** and accurate **measure of SOL**.

Conclusion

National income indicators like real GDP per capita is the main indicator used to assess the change in material living standards of individuals in a country. However, given its limitations, for a more accurate measurement and interpretation, it needs to be complemented with other indicators Gini coefficient and also qualitative indicators that reflect the quality of life that stems from intangible aspects like pollution index and hours worked to capture changes in non-material living standards.

Other acceptable indicators:

- *Composite indicators: Human Development Index (HDI); Measurable Economic Welfare (MEW)*
- *Life expectancy rates; infant mortality rates;*

Mark Scheme

Level	Descriptor	Marks
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L3	For an answer that uses economic concepts to provide a clear explanation of how the indicators can be used to reflect both material and non-material aspects of SOL.	8 – 10
L2	For an answer that gives a descriptive explanation of the indicators used to measure SOL OR Answer covers only <u>one</u> aspect of SOL (i.e. either material or non-material)	5 – 7
L1	Answer shows some knowledge of indicators used to measure SOL. Largely unexplained list; major conceptual errors	1 - 4

Part (b)

Introduction

To achieve a high SOL, governments can implement various policies, from expansionary fiscal or monetary policy to achieve economic growth and hence higher material living standards to policies like pollution tax or regulations to address the pollution so as to improve non-material living standards.

Governments may need to choose a mix of policies to achieve a high standard of living as each policy can only target a limited number of objectives. Other reasons why a mix of policies may be required could be because there may be because certain policies may be limited in effectiveness and hence need to be complemented with other policies or that the causes of the macro problems that impede the achievement of a high SOL stems from different causes.

Body

Each policy can only target a limited number of objectives, resulting in a mix of policies being needed to achieve both high material and non-material living standards.

A high material living standard is achieved when there is actual growth. To achieve actual growth, the government may opt for expansionary fiscal policy, either by increasing government expenditure or decreases taxes. By increasing government expenditure on domestically produced goods and services, e.g. expansion of the transport infrastructure, AD increases. The rise in AD will lead to a multiplied rise in the real national income through the multiplier process. With higher real national income, households have more purchasing power and hence is able to consumer more goods and services, leading to higher material living standards.

However, as SOL comprises of both material and non-material aspects, there is a need to ensure that the higher material living standards does not come at the expense of non-material living well-being. For countries like China and India who are experiencing high growth rates, higher material living standards from increased production of goods and services through agricultural and industrial activities have resulted in pollution leading to deterioration of the environment, hence compromising non-material living standards. In such cases, the governments of these countries would also need to implement policies like production or pollution taxes or impose regulations to reduce pollution so as to ensure a high SOL can be achieved.

In China, the government has introduced an environmental tax on companies that produce noise, air and water pollutants. A pollution tax forces firms to internalise the marginal cost of pollution in their decision-making, and rational firms will choose to lower pollution as long as the marginal private benefit of lowering pollution (which is avoiding the pollution tax) outweighs

the marginal private costs of lowering pollution (e.g. of using cleaner methods of production). Since this measure ties the total amount of taxes payable to the amount of pollution generated, firms have the incentive to actively find cleaner production methods or engage in R&D that allows them to reduce the amount of pollution tax it needs to pay. This leads to the lowering of pollution, hence improving the environment and quality of life of residents in the country, leading to a higher non-material living standards.

Evaluation:

Not all countries need to implement a mix of policies to achieve a high SOL. Whether there is a need to also implement policies to improve the non-material living standards depends on whether non-material living standards is compromised. For example, the extent of environmental damage would differ from country to country and would depend on the type of production the country engages in. For countries like Singapore where its main industries lie in high-end manufacturing (e.g. microchips) and bio-medical services, the extent of pollution from these activities are not that significant, compared to China where pollution from its heavy manufacturing industries like steel, cement and shipbuilding is high, and hence may not require the implementation of additional policies to reduce pollution to achieve a high SOL.

Conflicts between policy objectives may arise in the pursuit of policies to bring about a high SOL, hence requiring a mix of policies to address the conflicts.

To achieve economic growth to improve material living standards, governments may choose to adopt expansionary fiscal policy. However, the rate of increase in AD might be so fast (as in the case for emerging economies like China and India) that it exceeds the rate at which the productive capacity of the economy increases (i.e. rate of increase in AS). This results in demand-pull inflation as the lack of spare capacity would result in increasing pressure on scarce resources, bidding up the prices of these factors of production. Producers may pass on the cost to consumers resulting in higher prices and hence increases in the GPL. If the increase in households' income is less than the increases in GPL, household will experience a fall in real income, causing a fall in consumption and hence material living standards.

In such a case, the government would also need to implement supply-side policies to ensure that potential growth is achieved so as to prevent demand-pull inflation from reducing material living standards. For example, the government can provide grants and subsidies to encourage training and skills upgrading to increase the quality of labour. As labour becomes more productive, output per man-hour increases, increasing the productive capacity of the economy. This causes the vertical portion of the AS to shift rightwards, easing the pressure on scarce resources, preventing the increase in GPL, enabling economic growth to be sustained and hence high material living standards can be maintained.

Evaluation:

Whether conflicts between policy objectives arises may depend on the choice of the policy tool. In the case above, conflicts between economic growth and inflation may not arise if the government had adopted fiscal policy in the form of increasing government expenditure on infrastructure or lowering of corporate tax rates. For example, the increase in government expenditure on infrastructure would increase the quantity and quality of factors of production like labour and capital, causing productive capacity of the economy to increase. The expansion of productive capacity in the economy would cause less pressure on scarce resources, preventing prices from rising. Hence, there will not be a need to implement a mix of policy in such a case.

Macroeconomic problems that impede the achievement of high material living standards may arise from different root causes, resulting in the need for a mix of policies to tackle these problems to achieve a high SOL.

A country may be experiencing low material living standards as a result of high unemployment, where a large proportion of residents are not employed and hence do not have the ability to consume goods and services. In order to achieve higher material living standards for the majority, the government would need to implement policies to tackle the unemployment problem.

If unemployment was mainly demand-deficient unemployment, then the use of expansionary demand management policies like the use of expansionary fiscal or monetary policy would be sufficient. An increase in AD would lead to an increase in demand for goods and services which would in turn result in an increase in demand for labour since labour is a derived demand.

However, if both demand-deficient unemployment and structural unemployment are present, then implementing expansionary demand management policies alone will not be sufficient. The government would need to concurrently implement policies to tackle the structural unemployment as well. To address the mismatch between job requirements and skillset of workers, policies such as subsidies for re-training those unemployed may be required so as to equip these workers with the skills to be gainfully employed in expanding industries. Hence, in this case, in order to achieve a high standard of living, the government will need to implement a mix of policies to address the different causes of unemployment that is present so as to ensure that the majority of the residents is able to enjoy a higher national income and hence consume more goods and services.

Evaluation:

There may not always be a need for a mix of policies even when the root causes of the macroeconomic problem differ. A country may be experiencing falling economic growth that arises both from a lack of internal demand causing a fall in consumption, and a lack of external demand causing a fall in exports revenue. In such a case, implementing expansionary demand management policies alone is sufficient to bring about an increase in AD and hence economic growth, leading to a higher material living standard.

The limitations of the effectiveness of policies may result in the need for a mix of policies is needed to complement each other in order to bring about a high standard of living

To bring about economic growth so as to achieve a high standard of living, economies that have a small domestic market and lack natural resources like Singapore might choose to adopt supply-side policies to boost the competitiveness of its exports. Hence, the government implements supply-side policies like provide grants for research and development (R&D) of higher quality products to increase the non-price competitiveness of the country's exports, leading to higher export revenue and hence economic growth and improvements in material living standards.

However, such supply side policies usually have a long gestation period and is typically a longer term measure. Therefore, in order to bring about economic growth in the short term, the government would need to **complement the long-term supply-side policies with short-term policies like exchange rate policy**.

By weakening the country's exchange rate, its exports will be more price competitive and hence demand for exports increases. At the same time, the price of imports increase, causing quantity demand to fall. Assuming $PED_m > 1$, the more than proportionate fall in quantity demand will lead to import expenditure decreasing. Hence $X - M$ increases, resulting in increases in AD and hence economic growth, assuming *ceteris paribus*.

Evaluation

Small and open economies that face the constraint of a small domestic market and lack of natural resources may need to use a greater mix of policies to achieve the outcomes compared to large economies as a number of policies will be limited in terms of their effectiveness as a result of these constraints.

For example, small and open economies that lack natural resources would be dependent on imported raw materials. This would mean a high marginal propensity to import, resulting in larger withdrawals and hence a smaller multiplier. This would limit the effectiveness of demand management policies and there would be a greater need to complement with supply-side policies to achieve the intended outcomes.

Conclusion

Governments need to choose a mix of policies to achieve a high SOL **mainly** because of the fact that **most policies are only able to target a limited number of objectives**.

This is supported by the Tinbergen Rule, which states that for each and every policy target there must be at least one policy tool. To achieve a high SOL, governments need to ensure that **economic growth is sustained** as well as **sustainable**. Hence, in striving to achieve a high material and non-material living standard, governments will not only need to strive for sustained economic growth but also ensure that the non-material aspects like the state of environment is not compromised. Some macroeconomic problems that impede the achievement of high material SOL may be due to **different root causes** and hence would require more than one policy to tackle them.

The nature and characteristic of an economy also plays an important role in determining whether or not there is a need for a mix of policy. An economy in a particular stage of development might result in a certain type of industry operating in the country and hence determine the extent to which state of environment may be compromised with the expansion of economic activity. The nature of the economy may also severely limit the effectiveness of policies resulting in the need for a greater mix of policies to achieve the outcome of a high SOL.

Mark Scheme

Level	Descriptors	Marks
L3	Well-developed answers which thoroughly analyses the reasons for the mix of policies, with explanation of how the different policies can work to achieve high material and non-material living standard.	8 - 10
L2	Largely descriptive explanation of the reasons for the mix of policies (e.g. limited use of economic analysis in the explanation of policies) OR Underdeveloped explanation of the reasons for the mix of policies	5 - 7
L1	Answers which show some knowledge of the workings of macroeconomic policies; largely not addressing the question; Listing of points	1 - 4
E3	For an answer that uses analysis and contextualised examples to support an evaluative conclusion on the reasons why governments need a mix of policies to achieve a high SOL.	4 - 5

	Evaluates the reasons by considering situations where the reasons for choosing a mix of policy might not hold; the extent to which countries might choose a mix of policies to achieve high SOL; weighs the reasons for requiring a mix of policies.	
E2	For an answer that makes some attempt at evaluating the reasons why government may need to choose a mix of policies to achieve a high SOL.	2 - 3
E1	For an answer that gives an unsupported concluding statement on the reasons why governments need a mix of policies to achieve a high SOL.	1

Question 5

Different governments implement different policies to reduce the country's current account deficit. Whilst the US government impose protectionist measures like tariffs, other governments choose to adopt tight fiscal policy or supply side policies.

- a) Explain the factors that are likely to cause a balance of payments deficit on the current account. [10]**
- b) Discuss the appropriateness of the measures a government could adopt to alleviate a current account deficit. [15]**

Part (a)

Introduction

- The current account (CA) balance records **payments** arising from the imports and exports of goods and services, from incomes in the form of rents, interest, profits and dividends, and unilateral transfers into and out of the country.
- CA deficit means that there is a net outflow of currency from the CA, i.e. the total value of receipts received from abroad (credit) is less than the total payments made to overseas (debit).
- As the balance of trade accounts for the largest proportion of the current account balance for most countries, a current account deficit normally arises because of the trade deficit (i.e. export revenue (X) is less than import expenditure (M) or net exports (X-M) is negative.)

Body: Factors causing a CA deficit

(1) Strong economic growth in the domestic economy may cause a CA deficit

Strengthening of the domestic economic environment can cause a country's trade balance to deteriorate and become a deficit. When there is domestic economic growth, there will be a rise in national income, ceteris paribus and this will lead to higher purchasing power, increasing the ability of consumers to purchase imported goods and services. With a rise in demand for imports, import expenditure will rise. If the import expenditure exceeds the export revenue, this will result in a trade deficit and if the trade balance is a major component of the current account balance, there will be a CA deficit, ceteris paribus.

US for example is seeing its CA deficit worsening over the years largely due to stronger economic growth (e.g. as it recovers from the 2008 global financial crisis). Higher national income has provided households with the ability to buy imported goods and services. The rising import expenditure which exceeds the rise in export revenue resulted in the CA deficit; US has a substantial trade deficit with China.

(2) Appreciating exchange rate may cause a CA deficit

An appreciation of the domestic currency of a country against other foreign currencies means that foreigners would be required to exchange more units of their currencies for the domestic currency to buy the same quantity of goods. This will cause the price of her exports in terms of foreign currency to rise and price of imports in terms of domestic currency to fall. Therefore, foreigners will buy less of the country's exports, causing the demand for exports to fall. This means that with a lower quantity of exports and the price of exports in domestic currency unchanged, export revenue will fall.

Since residents now find imported goods cheaper in terms of domestic currency, quantity demanded for imports will rise. Assuming PED >1 as there are many close substitutes, import expenditure will rise as the fall in expenditure from the lower price of imports will be

more than offset by the rise in expenditure from the more than proportionate rise in quantity demanded of imports. Given that import expenditure exceeds export revenue, it will result in a CA deficit.

US dollar has been appreciating against Yuan and other foreign currencies, therefore causing the purchase of more relatively cheaper foreign-produced goods (resulting in rise in import expenditure assuming $PED_M > 1$) and lesser US produced goods (rise in export revenue lower than rise in import expenditure).

(3) Higher domestic inflation rate relative to other countries may cause a CA deficit

Higher domestic inflation rate (either demand-pull caused by rising AD exceeding full employment level or cost-push inflation due to rising wages) relative to other countries will cause the domestic goods to be relatively more expensive than foreign imports. This causes domestic households to reduce quantity demanded for domestic goods and substitute them with the relatively cheaper imported goods. Thus, demand for imported goods will rise.

At the same time, foreigners will decrease quantity demanded for the country's exports as the price of exports in domestic currency is relatively higher due to the higher inflation rate, causing export revenue to fall given $PED > 1$ due to availability of close substitutes (loss in revenue from the more than proportionate fall in quantity demanded exceeds rise in revenue from the rise in price of exports). The rising import expenditure, if it exceeds the export revenue will result in a current account deficit.

Jordan experienced a rise in current account deficit partly due to the higher domestic inflation in 2017.

(4) Loss of comparative advantage results in a deterioration in the country's export competitiveness and may cause a CA deficit

Lower-cost countries like China have abundant labour and thus lower labour costs. The expansion of labour intensive manufacturing industries in these lower-cost countries which export their cheaper products to the developed countries like US, has resulted in the US firms not being able to compete. This is due to the loss of comparative advantage of the US firms (i.e. inability to produce labour intensive goods at lower opportunity costs compared to the Chinese firms; Labour costs in US are relatively higher than in China).

Consumers will thus switch to buying the cheaper imported goods, resulting in a rise in demand for imports and import expenditure. Chinese consumers will buy less of the more expensive US goods resulting in a fall in the export revenue assuming $PED > 1$ (availability of close substitutes from other countries). With export revenue falling and import expenditure rising, and assuming import expenditure is greater than export revenue, there will be a rise in CA deficit, ceteris paribus.

Conclusion

A CA deficit implies that there is net outflow of currency from the CA and usually arises because of a deficit in the balance of trade as trade balance is a major component of the CA balance in most countries.

Mark Scheme

Level	Descriptor	Marks
L3	A clear and detailed answer that explains the factors causing current account deficit.	8 – 10

L2	A descriptive explanation of factors (at least 2) causing current account deficit OR Under-developed explanation of factors (at least 2) causing current account deficit.	5 – 7
L1	Answers show some knowledge of current account and factors leading to current account deficit but largely unexplained listing of factors.	1 – 4

Part (b)

Introduction

Different governments adopt different measures such as contractionary fiscal policy, exchange rate policy, protectionism and/or supply-side policies to alleviate the country's current account deficit. The appropriateness of the measures depends on the **root causes** of the current account deficit, **economic conditions, nature of the economy, the level and duration of the deficit** and possible **trade-offs** in macroeconomic goals.

Body

A government may adopt contractionary fiscal policy to reduce the current account deficit.

The government aims to reduce the current account deficit by reducing import expenditure through the reduction of national income. It can implement contractionary fiscal policy by reducing government expenditure (such as education, healthcare, etc.) and/or raise taxes to reduce aggregate demand. A rise in income tax will reduce the personal disposable income and ability to purchase imported goods and services. A rise in corporate tax will reduce the expected after tax profits, hence reduces the incentives for firms to invest due to the lower retained earnings. With a fall in government expenditure, consumption and investment expenditure, there will be lower aggregate demand (AD) for goods and services.

The fall in AD will result in AD being lower than the real national output and firms will face an unplanned rise in inventories. Firms will therefore reduce production and require lesser factors of production and this will result in a fall in national income. With lower national income, there will be lower induced consumption from households and this will result in a downward multiplier process with a multiplied fall in the national income. As purchase of imports is dependent on the national income, the fall in national income will result in a fall in import expenditure which will help to reduce the current account deficit, *ceteris paribus*.

Evaluation:

- For countries like US, there is a strong downward multiplier effect as MPC_D (marginal propensity to consume domestic goods and services) is high as the households have lesser needs for retirement savings. This is due to the government providing for most of the citizens' social needs. So a contractionary fiscal policy will be able to reduce import expenditure significantly and hence the CA deficit.
- However, depending on the state of the economy, there may be conflict in goals. If the economy is operating below full employment, this policy may result in a rise in unemployment. Moreover, the fall in AD may fuel business pessimism and may induce firms to further cut down on investment. Therefore, besides reducing current output and employment, such policies also run the risk of reducing potential output growth.
- Contractionary fiscal policy will be effective if the economy is initially experiencing inflationary pressure, as a fall in AD will be able to cool down the economy and bring down prices. This will improve the price competitiveness of exports and will also encourage consumers to switch towards domestically produced goods which are now relatively

cheaper than imports. However, if the consumer confidence and business outlook are very strong, the policy may not be able to reduce the consumption and investment expenditure significantly and thus reduction of the current account deficit may not be significant.

A government may adopt exchange rate policy to reduce the current account deficit.

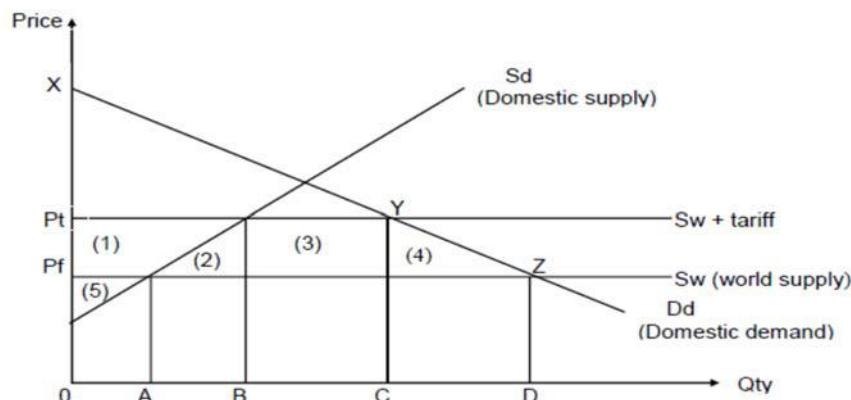
In a managed float exchange rate system, the Central Bank may intervene in the foreign exchange market to reduce the value of the domestic currency against the foreign currencies. This causes the value of the domestic currency to be weaker relative to selected foreign currencies, and makes her exports more competitive in terms of these foreign currencies. With the weaker domestic currency, imports will also be more expensive in local currency and will lead to a fall in import expenditure, assuming $PED_m > 1$ (availability of close substitutes). This is because the rise in expenditure due to the higher price of imports is outweighed by the fall in import expenditure from the more than proportionate fall in quantity demanded. The rise in export revenue and the fall in import expenditure results in a rise in $(X-M)$ which reduces the current account deficit.

Evaluation

- Effectiveness of the exchange rate policy will depend on the nature of the economy. For economies which are quite sufficiently endowed with natural resources and hence less reliant on imported inputs, a weaker currency will not result in cost-push inflation. But for countries that rely heavily on imported inputs, currency depreciation may result in cost push inflation.
- Exchange rate policy will be appropriate if the economy has spare capacity. The increase in $(X-M)$ which are components of AD will also result in a rise in real GDP and actual economic growth. However, if the economy is near full employment, the further rise in AD may result in inflationary pressure.
- In the SR, consumers may not switch to the cheaper local goods as taste and preferences may take time to change and firms may not be able to adjust prices immediately due to contractual obligations. Hence, in the SR, import expenditure may rise, leading to an initial worsening current account deficit. In the LR, as consumers switch to the cheaper local goods and contracts are renegotiated, current account balance will improve.
- Such a policy may lead to capital flight if investors expect further currency depreciation and this could destabilise the short term capital account.

A government may impose tariffs to reduce the current account deficit.

Tariffs are taxes levied by a government to restrict foreign competition.



Initial equilibrium price was at P_f where world supply curve (S_w) intersects domestic demand curve, with domestic production at OA units. US is a small producer (e.g. <5% of world steel).

With the imposition of a tariff on the imported products (e.g. steel), supply curve shifts upwards to $S_w + \text{tariff}$ and the price of imported steel will be higher at P_t , resulting in a fall in quantity demanded of imports. Domestic consumers will switch to consuming domestic goods (from OA to OB). Assuming demand for imports are price elastic as consumers have many substitutes, this will lower import expenditure. This is because the rise in expenditure from the rise in price is more than outweighed by the fall in expenditure from the more than proportionate fall in quantity demanded of imports. Assuming export revenue unchanged, current account deficit will be reduced.

Evaluation

- Tariffs are implemented on specific industries, e.g. in the steel industries in the case of US. The proportion of steel industries' contribution to GDP may not be so significant so the reduction in the import expenditure may not be large enough to sufficiently reduce the current account deficit.
- Protectionism may be justified if the cause of the current account deficit is due to unfair trade practices like dumping or undervalued exchange rate. However, it is difficult to ascertain that there are unfair trade practices. It also cannot be a long-term solution because it doesn't improve the competitiveness of exports. Moreover, it may provoke retaliation which will counter the positive effect of tariffs in reducing current account deficit. It also results in the misallocation of resources. There is a welfare loss of area 2 due to over-production from inefficient domestic producers at higher marginal costs of production and area 4 due to lower consumption from higher price of goods.

Government can adopt supply-side policies to reduce the current account deficit.

The government can provide grants, subsidies or tax incentives to encourage innovation and investment in research and development (e.g. 2018 Productivity Solutions Grant which provides funding for up to 70% of costs of technologies to improve productivity). These policies lower the cost of conducting R&D, incentivizing firms to conduct more R&D, enabling firms to improve the quality of its products and increase the demand for its exports. Moreover, with better production methods or processes, the firms will be able to improve productivity and generate more output with the given inputs, thus lowering marginal costs of production. This will improve the price competitiveness of the exports and result in a rise in quantity demanded of exports assuming demand for the exports is price elastic (i.e. many close substitutes in the global market). There will be a rise in export revenue as the higher revenue gained from the more than proportionate rise in quantity demanded will outweigh the loss in revenue from the fall in price of exports. This will improve the balance of trade and reduce the current account deficit, *ceteris paribus*.

Evaluation

- Supply-side policies are more effective if the root cause of the current deficit is lack of competitiveness of the exporting firms.
- However, such policies take time to be effective. Meanwhile, countries may have to resort to other policies for a quicker, but temporary solution.

Conclusion

The types of policies that the government used depend on the **causes** of the current account deficit, **economic conditions, state and nature of the economy**. If current account deficit arises due to demand-pull inflation, then expenditure reducing policies like contractionary fiscal policy would be more appropriate than deliberate currency depreciation which can worsen the inflation rate in the country. If the root cause of the inflation is lack of export competitiveness, then supply-side policies to improve the price competitiveness of the exports will be more appropriate. However, as the effects of supply-side policies take time, and there

may be other causes of the current account deficit, other policies may be required to complement the supply-side policies.

It also depends on the **state of the economy** as in the situation where an economy is operating at below the full employment level, deliberate currency depreciation may be much appropriate than contractionary fiscal policy as the latter policy will worsen the economy. For a country that relies heavily on external demand, exchange rate and supply-side policies will be the most appropriate as it improves both the price and non-price competitiveness of the exports. However, if the external economic conditions are not so positive, the effectiveness of the policies may be limited.

Mark Scheme

Level	Descriptors	Marks
L3	Well-developed answers which thoroughly analyses the appropriateness of the different macroeconomic policies (at least 3) that the government can adopt to reduce the current account deficit.	8 - 10
L2	Under-developed answers giving largely descriptive explanation of the appropriateness of the different macroeconomic policies (2 policies) that the government can adopt to reduce the current account deficit.	5 - 7
L1	Answers which show some knowledge of the workings of the macroeconomic policies that the government can adopt to reduce the current account deficit.	1 - 4
E3	For an answer that uses critical analysis to support an evaluative appraisal of the appropriateness (consider at least 2 aspects, namely root causes of the deficit, state and nature of the economy) of the different macroeconomic policies that the government can adopt to reduce the current account deficit.	4 - 5
E2	For an answer that makes some attempt at an evaluative appraisal of the appropriateness of the different macroeconomic policies that the government can adopt to reduce the current account deficit.	2 - 3
E1	For an answer that gives an unsupported concluding statement or appraisal of the appropriateness of the different macroeconomic policies that the government can adopt to reduce the current account deficit.	1

Question 6

Free trade agreements are treaties which make trade and investment between two or more economies easier. International business is now simpler with Singapore's network of over 22 implemented agreements.

Source: Enterprise Singapore

Discuss the impact of free trade agreements on different economies.

[25]

Introduction

With globalisation, economies around the world are becoming more integrated and interdependent on each other for economic growth. This comes as **goods and services** become more mobile with trade integration, **capital flows** become easier with financial integration; and **labour flows** between countries become more mobile with international migration.

Free trade agreements (FTA) are official treaties between **member countries** to **abolish tariff barriers** among themselves but may maintain their individual tariffs against non-members. Such agreements that **boost trade and investments** between member countries will enhance the benefits of globalisation to member countries.

Body

FTA enhances trade between member nations leading to improvement in consumers' welfare.

As seen from Figure 1, Pt shows the domestic price in the home country when there is a tariff imposed on the good. With the tariff, the domestic demand is at OC while the domestic supply is OB. This means that imports are restricted to BC as a result of the tariff.

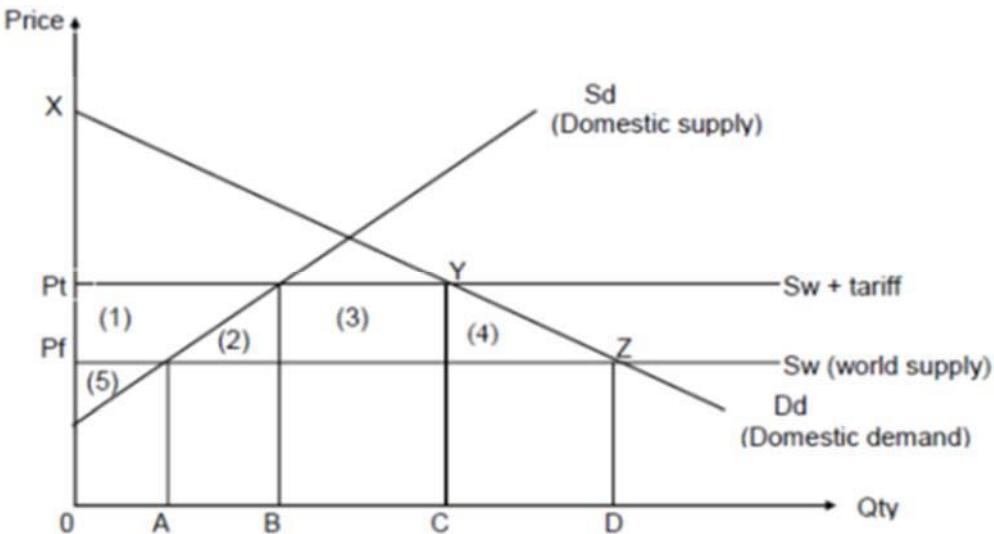
The signing of FTA will result in the abolishment of tariffs. When the tariff is abolished, the fall in price of the good from Pt to Pf allows domestic consumers to consume the goods at a **lower price**. Domestic quantity demanded rises from OC to OD while domestic quantity supplied falls from OB to OA. Import now rises from BC to AD. As a result of the fall in price and rise in imports, **consumer surplus increased** by areas (1), (2), (3) and (4); while producer surplus reduced by area (1).

In addition, the access to other markets with the signing of FTA would **increase the variety** of goods and services to consumers. The greater degree of choice would also increase consumers' welfare.

Evaluation:

The extent of this benefit to domestic consumers in the different economies will depend on the **degree of reliance** on foreign consumer goods. For example, developed countries (DC) such as the US could be heavily reliant on imported basic textiles and food-stuff from less developed countries (LDC). In such instances, the FTA that removes the import tariff would benefit US consumers' welfare substantially.

Figure 1. Abolishment of tariff lowers domestic price for consumers



FTA provides access to larger markets for producers, leading to higher profits.

Such trade cooperation that reduces any trade barriers between member countries, allow domestic firms better access to each other's markets. This brings about **larger revenues** for firms in the member countries as a result of the **larger market size** that firms can sell their goods to. As a result, a larger scale of production can bring about **economies of scale**, lowering the average cost of production. The larger revenues and lower costs can bring about **higher profits** for the firms.

Evaluation:

The extent of benefit between member countries would depend on the **degree of similarity of the goods produced**. This would allow member countries to specialise and reap the benefits from their **comparative advantages**. If the member countries produce very similar goods, the level of competitiveness will be high since domestic firms would need to compete both in terms of price and quality in order to secure the market. Product differentiation could alleviate the degree of competition to cater to **difference in tastes and preferences**. An example would be textiles where the fashion design and materials may be different. This allows for firms in DCs to sell their goods to LDCs despite both having similar industries.

In other instances, the less efficient firms may have to close down as a result of the competition from other member countries. Domestic firms facing such predicament and are unable to differentiate their product would suffer. In the long run, these will close down; increasing the import reliance on member countries for such goods.

In the long run, there is **greater efficiency in the allocation** of resources within the FTA because each of the member countries is able to apply their comparative advantage and trade freely. The respective **factor endowment** will determine the comparative advantage of the country. For example, a country with an abundance of arable land will be able to provide food crops with lower opportunity cost vis-à-vis a member country with huge desert land mass. Barring any transport costs and mobility of factors of production, there would be greater production (from specialisation) and consumption for the FTA countries.

FTA helps achieve economic growth and employment

Trade can be a driver of growth. Signing of FTA reduces trade barriers between member countries allowing countries to **increase the size of their export markets**. Ceteris paribus, if planned export value rises by more than that for import, the resulting rise in aggregate demand will lead to a rise in equilibrium national output as long as there is availability of **spare capacity**.

in the economy. Otherwise, the rise in aggregate demand (AD) may increase the pressure on scarce resources, causing upward pressure on prices, leading to DD-pull inflation. Thus, the **state of the economy** determines the extent of benefit from the FTA.

The increased access to other markets allows the home country to **overcome their domestic demand constraints** to actual growth (e.g. small size of domestic market) by exporting excess resources or goods to member countries. This enables fuller utilization of otherwise under-employed or unemployed resources, raising the level of output, income and employment in the home country. The extent of the rise in national income is dependent on the **size of the multiplier** and the extent of the injection from trade.

Evaluation:

The extent of impact from the rise in net exports will depend on the **nature of the economy**; the **reliance and openness to trade** of the member country. If net exports contribute significantly to the country's GDP, the rise in this component will result in a more significant rise in the country's output and employment. For example, a small economy like Singapore constrained by the small size of its domestic market is highly open and reliant on trade to boost its national income; the total value of exports and imports comprise more than 300% of its national income. As a result, the country relies heavily on the contribution from trade for its economic growth and hence the increase in size of export markets that FTA brings about is a significant benefit for Singapore.

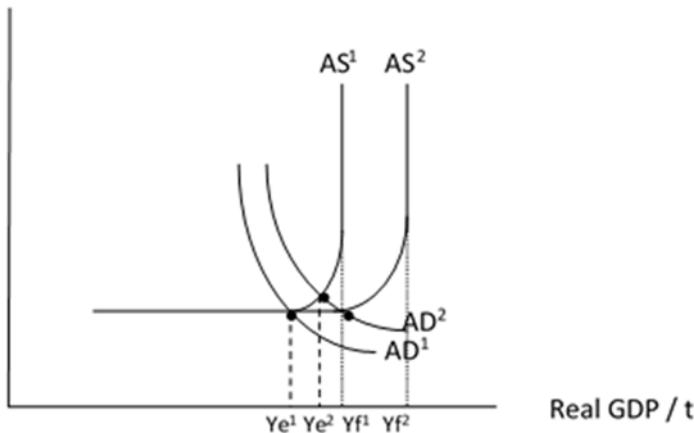
The extent of impact from the rise in net exports will also depend on the **terms of trade** between the member country. DCs generally produce higher value-added goods and services while LDCs, where their production is generally more labour-intensive, tend to produce goods and services that are low in value-add. Under such trade arrangements, the terms of trade will favour DCs more than LDCs. The **stage of development** thus determines the degree of value-add in the production. DCs have a higher technological and infrastructural advantage compared to LDCs. Coupled with a more educated and skilled workforce, DCs are able to produce higher value-added goods and services.

FTA may facilitate and allow **greater capital flow** between member countries. This comes about as a result of the reduced regulatory restrictions of the free trade agreement. These capital inflows in the form of foreign direct investments (FDI) will boost the AD of the home country in the short run since investment is a component of AD.

The increase in investment and trade, *ceteris paribus* will result in an increase in the AD of the home country since I and (X-M) are components of AD. This results in a rightward shift of AD from AD¹ to AD². The increase in AD will result in AD being higher than the real national output; firms face an unplanned fall inventories, causing them to increase production, increasing national income by a multiple through the multiplier effect, resulting in actual growth.

In the long run, capital inflows in the form FDI leads to capital accumulation and could also result in increases in quality of the factors of production. This leads to an increase in productive capacity of the economy (assuming the rate of capital accumulation exceeds that of capital depreciation), causing the aggregate supply (AS) to shift rightwards from AS¹ to AS², leading to potential growth.

Figure 2. Economic growth as AD and AS rises



As seen in Figure 2, the rightward shift in the AD curve from AD^1 to AD^2 results in a rise in GPL as output rises from Ye^1 to Ye^2 . However, when AS curve shifts rightwards from AS^1 to AS^2 , the GPL falls and real GDP now rises from Ye^2 to Yf^1 .

Evaluation

The rise in the AS curve as the AD curve rises will help to mitigate any inflationary pressure as the economy reaches close to the full employment output level, bringing about **sustained economic growth**. The rise in AS as a result of greater FDI inflows would especially be beneficial for emerging economies that are growing very rapidly like China as there is higher possibility of inflationary pressures given the rapid rise in AD. Thus, the **state of economy** determines the extent of benefits from FTA.

In addition, the more dissimilar the industries (difference in comparative advantage or **stage of development**) are in the member countries, the more positive the impact since there will be less competition amongst them.

FDI inflows also helps to enhance the depth and scope of investments in the receiving country. For example, the FTA may allow more high-tech investment inflow to boost a primarily agricultural economy, introducing new and better methods of farming that boosts productivity and yields. These investments may also then be made available to other industries, increasing the depth and scope in terms of the use of technology.

Evaluation:

Such inflows of FDI will be more beneficial for developing economies or economies at a lower **stage of production** as it brings in new technology to help the economy progress. This increases efficiency and helps domestic industries move into production of higher value-added goods. The extent of benefits from FDI inflow thus depends on the initial stage of development of the country. A country with a high level of development and technology may not benefit as much from FDI inflow since the value-add to the productivity may be low.

FTA may increase structural unemployment

Structural unemployment occurs when displaced workers do not have the required skill sets to be engaged in another job. As a result of the FTA, domestic firms may be subjected to increased competition from similar firms within the member countries. If these domestic firms are less efficient and are unable to compete, they may outsource their production resulting in unemployment for the industry in the home country.

For example, commercial banks in Singapore make use of the services of call centres located in India for their provision of customer-support services. As a result, workers who used to work in the call centres in Singapore will become unemployed. For certain types of labour to be transferred from one industry to another, extensive retraining is often required. Such retraining may be very costly or at times, even impossible. A considerable time period may also be required for such retraining resulting in structural unemployment.

Evaluation:

The extent of structural unemployment may be dependent on **nature of the economy** such as factors like the level of education of the population. In developing countries like Indonesia where the majority of the population has a low level of education, acquiring new skills may take a longer time and workers may be less receptive to training.

FTA may lead to trade diversion

Trade diversion occurs when trade is diverted from a more efficient exporter towards a less efficient one as a result of the formation of free trade agreement or a customs union. While the cost of goods and services become cheaper as a result of the abolishment of tariffs within the member countries, it is undesirable as it concentrates production in countries with higher opportunity cost and lower comparative advantage, resulting in inefficient allocation of resources.

For example, if there are two countries that can produce apples for sale. Country A is able to offer apples for sale at \$1.00 each, while Country B is able to offer apples for sale at \$1.05. Let us assume that home country imposes a 10% tariff on apples. Buying apples from Country A would now cost \$1.10, while those from Country B would cost \$1.16. Without any trade agreement, the home country would buy from Country A. If the home country signs a free trade agreement with Country B and the tariff is abolished, apples would now cost only \$1.05. As a result of the free trade agreement, the home country has to buy from a less efficient source at a higher price. As a result of the higher price of apples that consumers in the home country has to pay, there will be a welfare loss as resources become inefficiently allocated.

Evaluation:

The extent of welfare loss is dependent on **the proportion of all the goods and services** affected by the trade diversion. For example, if the trade diversion affects only a small basket or a small proportion of goods and services, these negative impact may actually be offset by gains in other areas that have a greater impact on the welfare of society.

FTA may cause balance of payments disequilibrium

In the current account balance of the BOP, member countries may experience increased volume and value of trade if there are mutual benefits. However, it could also worsen the current account deficit from trade if a particular member country is unable to compete for exports. It could also worsen the current account if a particular member country imports more than it is able to export, resulting in trade deficit.

Prolonged deterioration in the current account could lead to a depreciation of the external currency for the home country. A current account deficit will result in an excess of the home country's currency in the Forex market. As such, there will be downward pressure on the external value of the home country currency. In addition, when the country consumes beyond its means, additional borrowing is needed to fund these consumption, leading to an increased burden in future repayment.

Evaluation:

The impact of the current account deterioration is dependent on both the price and quality of goods and services available in the home country. If the goods lose their competitiveness due

to poorer quality, the extent and duration of such a current account deterioration would be more severe. Countries with a higher **stage of development** is more likely to have the resources and funding to ensure that the quality of their products.

The extent of the impact on current account is also dependent on repatriation of profits and dividends. When FDIs flow from DCs into LDCs to tap on the cheaper labour costs for production, profits from these investments will be repatriated to the DCs. This will help offset any trade deficit that DCs may suffer as a result of importing from LDCs.

In the capital account, FDI will flow into the member country with a more positive business outlook and out of the member country with poor business sentiments. Prolonged FDI outflow will result in the ‘hollowing out’ of the economy in terms of productive capacity. This will affect the potential growth of the country as the dearth of investment leads to lower output and productivity over time.

Evaluation:

The extent of the FDI inflow will depend on the **factor endowment** of the receiving country. DCs tend to invest in LDCs to tap on the cheaper labour that is abundantly available.

Conclusion

[Stand] While free trade agreements bring about more benefits than costs, the extent is dependent on the characteristics of different economies. The resource endowment, state and nature of the economies can determine the extent of the benefits from signing the FTA.

For economies with a small domestic market, they are likely to benefit from the expansion of their production. As such, they may gain most significantly from the access to larger markets to trade for economic growth.

For countries with a lack of natural resources, the benefit of being able to obtain factor inputs and other consumption goods more cheaply with the abolishment of tariff would be a significant benefit for consumers from signing the FTA.

For developing countries, the increased flow of capital as a result of the FTA would be most important since it allows for greater transfer of technology. This would enable the economy to progress from low value-add production to higher value-added goods and services.

The more dissimilar the member countries, the greater the benefits from trade creation, economic growth and development. The benefits from specialisation will allow member countries to achieve sustained economic growth as access to both markets and resources is enlarged.

Mark Scheme

Level	Descriptors	Marks
L3	Accurate and precise explanations of the benefits and costs; and recognises the question requirement that the extent of these impact is dependent on the context of the different economies (e.g. characteristics and nature of economy).	18 – 20
	Answer that recognises the question requirement of the benefits and costs of FTA; and attempts to contextualise their justification with examples and illustrations.	15 - 17
L2	For an answer that either gives an under-developed explanation of benefits or costs of FTA with attempts to use examples / diagrams to illustrate (demonstrate technical rigour in answers).	12 – 14

	For an answer that is mostly relevant, but explanation of the benefits or cost is either undeveloped or descriptive.	9 - 11
L1	For an answer that shows some relevance and listing of possible benefits and costs.	5 – 8
	For an answer that is mostly irrelevant and some knowledge of free trade agreements.	1 - 4
E3	For an answer that uses contextualised analysis / examples to support an evaluative conclusion (e.g. <i>benefits and costs may be of different degrees; short run versus long run effects etc.</i>).	4 - 5
E2	For an answer which shows some attempt to explain and support evaluative statement(s) made.	2 – 3
E1	For an answer that gives an unsupported evaluative statements	1

**YISHUN JUNIOR COLLEGE
JC2 PRELIMINARY EXAMINATIONS 2018**

H2 ECONOMICS

9757/01

PAPER 1

**20 AUGUST 2018
0800 – 1015 hrs**

TIME 2 hours 15 minutes

Additional materials: Answer paper
Cover page

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YISHUN JUNIOR COLLEGE YISHUN JUNIOR COLLEGE

INSTRUCTIONS TO CANDIDATES

Write your name and CTG on all the work you hand in.

Write in dark blue or black pen.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, glue or correction fluid.

Answer **all** questions.

Start a new question on a fresh piece of paper.

At the end of the examinations, fasten all your work securely together.

Tie a cover page to the **two** questions separately:

1. Case Study Question 1
2. Case Study Question 2

The number of marks is given in brackets [] at the end of each question or part question.

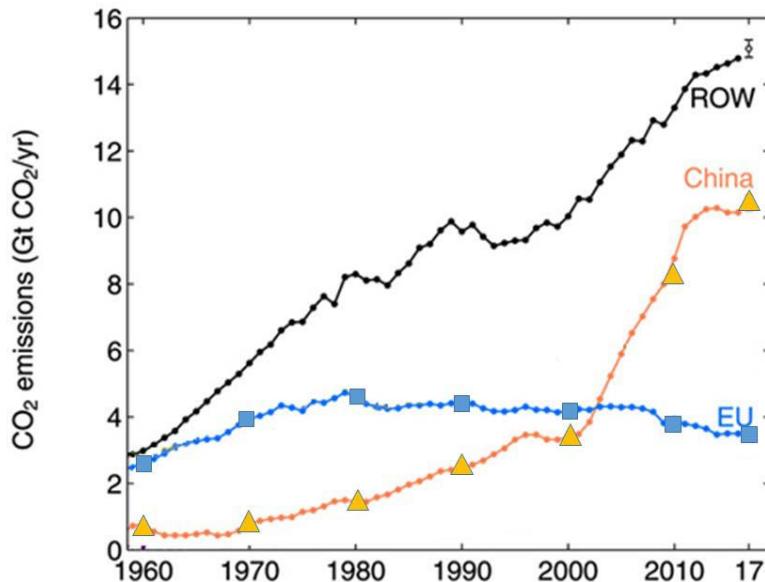
You are reminded of the need for good English and clear presentation in your answers.

This paper consists of **8** printed pages, including this cover page, and **2** blank pages.

Answer **all** questions.

Question 1: Fuel subsidies and vehicle emissions

Figure 1: Carbon dioxide (CO₂) emissions in Gigatonnes (Gt) per year



Note: ROW denotes 'Rest of the world'; 2017 figures are projections

Source: The Global Carbon Project and the Carbon Dioxide Information Analysis Centre (CDIAC), accessed 27 March 2018

Extract 1: Fossil fuel subsidies are a staggering \$5 trillion per year

Fossil fuels have two major problems. First, they cause climate change and the continued use of fossil fuels will cause enormous worldwide economic and social consequences. Second, fossil fuels are expensive and much of their costs are hidden as subsidies.

A study published in the journal *World Development* quantifies the amount of subsidies directed towards fossil fuels globally rose from \$4.9 trillion in 2013 to \$5.3 trillion in 2015. Typically, people on the street think of a subsidy as a direct financial cost that result in consumers paying a price that is below the opportunity cost of the product. However, a more correct view of the true costs of the fossil fuel subsidies would include environmental costs like global warming, deaths from air pollution and taxes applied to consumer goods in general.

Source: Adapted from *The Guardian*, 7 August 2017

Extract 2: Fossil fuel subsidies – a harmful government expenditure

In 2013, oil prices dropped sharply. Some Asian governments took advantage of this new trend to cut fuel subsidies. However, many other governments still find reforms to be very difficult as fuel prices are politically important, and many people feel entitled to low fuel prices.

In fact, artificially low fuel prices mostly benefit the better-off since they consume more energy than the poor. Indeed, the most marginalised rural communities still depend on firewood and other biofuels and fuel subsidies bypass them. An IMF study documented that across 20 developing countries the poorest fifth of the population received on average just 7% of the overall subsidy benefit, whereas the richest fifth received almost 43%.

Removing subsidies on fossil fuels will also allow the development of an energy mix that reflects the true relative costs of each type of energy. It will also release fiscal resources that could be put to better uses, such as social protection, expanding access to affordable energy services or promoting investment in renewable energy.

Source: Adapted from eco-business.com, 5 January 2018

Extract 3: Norway's electric vehicle revolution

Norway is the country with the highest number of electric vehicles per capita in the world. One out of every five new vehicles sold is electric. A calculation shows that an electric vehicle allows a driver to enjoy cost savings of 75% compared to its diesel equivalent. This makes it attractive for Norwegian consumers to replace their gasoline- and diesel-powered cars with electric ones.

In fact, the demand for electric vehicles in Norway is currently growing so rapidly that electric vehicle producers cannot keep up with it. Thousands of Norwegians have been waiting for months for their new electric vehicles and sellers have repeatedly extended delivery dates. This is due to the difficulties of mining essential raw materials such as lithium and cobalt.

This level of consumer enthusiasm is enabled by a generous array of incentives. There is no road tax (or registration fee) for electric vehicles, no sales tax, no value-added tax, and the corporate-vehicle tax is lower. There is free public parking and exemption from tolls as well.

Source: Adapted from www.climatechangenews.com, March 2018

Extract 4: Electric cars are not the solution

Comparing carbon pollution between gasoline- and diesel-powered cars to those of electric vehicles can be tricky, because it depends on the source of the electricity generation. For example, Poland uses high volumes of coal in generating electricity. Therefore, electric cars merely move pollution from cities to distant power plants.

Carbon emissions from electric vehicles would only decline if clean energy continues to expand with falling costs and widespread adoption. In addition, the streets will still not be pollution free because we will still have diesel lorries and buses and electric cars still release particle pollution into the air from wearing off tyres, brakes and road surfaces. In fact, one study found that the extra weight of the batteries in electric cars means more particle pollution compared with the petrol or diesel vehicles.

Source: Adapted from *The Guardian*, 13 August 2017 & 22 January 2018

Extract 5: The long and winding road of electric vehicle adoption

Electric vehicles are forging the way to the future: vehicle makers want to get their hands on the technology, as many governments look to cut down their carbon emissions. However, the data show that there's a long way to go, with more traditional models still holding the biggest slice of the vehicle market.

Electric vehicles are currently heavily subsidised in many countries. Not to be outdone, the UK government is committing £900m to support the growth of its electric vehicle industry.

For wider adoption (not to increase private car ownership but to change the mix) of electric vehicles in Singapore, we need to decide on the right number of charging stations per electric vehicle and a network of strategically located and accessible charging stations. For electric-vehicle drivers, the fear of having their car batteries run flat on them if they travel too far is of considerable concern. Therefore, the strategic deployment and distribution of fast chargers will go a long way to encouraging people to switch electric cars even though they are intrinsically cheaper than gasoline- and diesel-powered cars.

Source: Adapted from *The Telegraph*, July 2017 and *The Straits Times* 11 Dec 2017

Questions

- (a) With reference to Figure 1, compare the trend in carbon dioxide emissions [2] for the European Union (EU) and China between 1990 to 2010.
- (b) Explain what is meant by ‘true costs’ (mentioned in Extract 1). [2]
- (c) With reference to Extracts 1 and 2, discuss the impact of fossil fuel [8] subsidies on the economic goal of inclusive and sustainable economic growth.
- (d) With reference to the material and the use of a diagram, explain the market [5] failure in motor vehicles usage.
- (e) With reference to Extract 3, explain the likely value of the price elasticity of [3] supply for electric cars.
- (f) Discuss the effectiveness of promoting the use of electric vehicles in [10] tackling the problem of global greenhouse emissions.

[Total: 30]

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Question 2: Brexit and its impact

Extract 6: Why Brexit is grim news

The reaction to Britain's vote to leave the European Union (EU) was less euphoric as a recession in Britain seems likely. In unsettled times, businesses defer whatever spending they can as investors hate uncertainty and the result of the referendum gives rise to a glut of it. In addition, the US economy has been sluggish of late and there are grave worries about China's ability to escape the shadow of its mountainous debts.

The same is true for consumers. As the bleak consequences for the economy become clearer, spending on big-ticket items is likely to slump. Some jobs will go, and wage growth will fall.

The Bank of England said this morning: "We are well prepared for this." It may cut its main interest rate from its present level, of 0.5%. It may even revive its quantitative-easing programme, buying bonds with freshly minted electronic money.

Sources: Adapted from *The Economist*, 24 June 2016

Extract 7: The real price of Brexit begins to emerge

Brexit has already reduced UK's growth by slightly less than 1 per cent. With the pound falling about 10 per cent following the June 2016 result, inflation has risen more in UK than in other advanced economies. The prices increase started with petrol prices and spread to food and other goods, pushing overall inflation up to 3.1 per cent last month, with wage inflation stuck at just over 2 per cent. After adjusting for inflation, pay including bonuses for the average worker in October 2017 was £490 a week. Official figures show that in May 2016 before the EU referendum it was £491, so real pay levels have been flat.

With national income of £2 trillion in the year ending in the third quarter of 2017, it means that UK is likely to be producing £18 billion less a year than would have been and this is directly attributable to Britain's decision to leave the EU.

Source: Adapted from *The Financial Times*, 17 Dec 2017

Table 1: Selected economic indicators for UK

	2015	2016	2017
GDP per capita in current prices (US\$)	44,328.18	40,529.60	39,734.59
Real GDP growth (%)	2.35	1.94	1.79
Trade in goods and services (£ million)	-32,370	-40,677	-28,620
Gini coefficient	0.50	0.492	0.489
Unemployment rate (%)	5.4	4.9	4.4
Average annual hours worked per worker	1,673	1,670	1,681

Sources: Office for National Statistics, Statista and Organisation for Economic Co-operation and Development

Extract 8: Brexit is upending China's yuan policy

After Britain's shock vote for Brexit, officials in Beijing are contending with a slumping euro and mounting economic uncertainty in Europe, just as a surging US dollar raises the risk of capital outflows.

"With the fundamentals of the yuan pointing to depreciation, further pressure from Brexit is likely to pose challenges to the People's Bank of China (PBOC) in terms of its policy direction -- whether to let market supply and demand play their roles and lead to faster depreciation, or to prioritise stabilisation," said Li Liuyang, Shanghai-based Market Analyst at Bank of Tokyo-Mitsubishi UFJ (China) Ltd.

Economists and investors warn that continued yuan depreciation at this pace could prompt Chinese businesses and individuals to once again send money abroad where its value will hold up better. Some Chinese exporters are already starting to hoard dollars and keep their earnings overseas, a shift that could mean less foreign-currency inflows, analysts say.

"The second round of capital outflows has started," said Kevin Lai, Hong Kong-based Chief Economist for Asia ex-Japan at Daiwa Capital Markets. Faster declines of the yuan risk reigniting a vicious cycle where expectations for further weakness quicken capital outflows. An estimated \$1 trillion left China in 2015 after the yuan's unexpected devaluation in August prompted mainland investors to seek foreign assets and companies to pay down overseas debt. "Brexit affects the whole of Europe, and Europe plus the UK is quite a big market. You can't underestimate the impact," said Lai. Some 15.6 percent of China's overseas sales are destined for the EU according to Bloomberg Intelligence. Based on historical relations, a one percentage point drop in the EU's GDP growth could take 0.2 percentage points off China's GDP growth.

The PBOC will step in to slow yuan depreciation if needed, said Roy Teo, a Singapore-based Strategist at ABN Amro Bank NV. "In this increased uncertainty, it's also not in the interest of China for the yuan to fall because that will magnify capital outflows, which is the last thing they want."

Source: Adapted from *The Wall Street Journal*, 7 July 2016 and Bloomberg News, 28 June 2016

Figure 2
Value of yuan against a basket of currencies

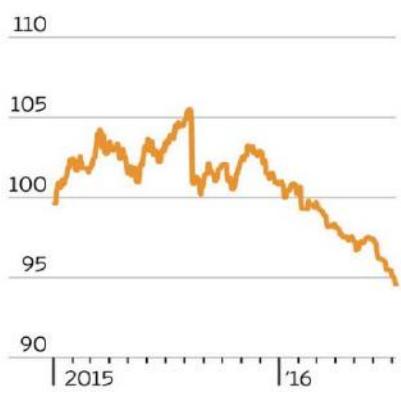
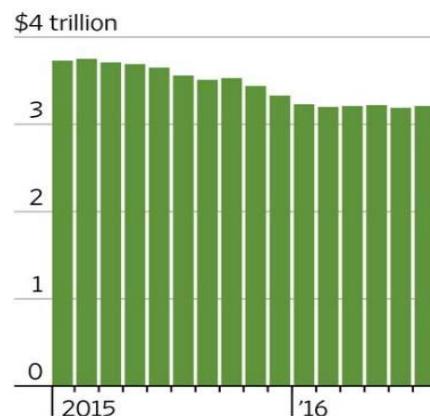


Figure 3
China's foreign-exchange reserves



Sources: Macquarie Securities and *The Wall Street Journal*, 7 July 2016

Questions

- (a) With reference to Extract 6, explain the consequences of Brexit on UK's internal economy. [6]
- (b) Explain how the following would be affected when interest rates are cut in the UK.
- (i) Consumption expenditure [2]
 - (ii) Investment expenditure [2]
- (c) Discuss whether Table 1 is useful to assess changes in living standards in the UK from 2015 to 2017. [8]
- (d) (i) Explain the likely reason for the change observed in the value of yuan and China's foreign exchange reserves in Figures 2 and 3. [2]
- (ii) With reference to the data, assess whether PBOC should 'step in to slow yuan depreciation'. [10]

[Total: 30]

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YISHUN JUNIOR COLLEGE
JC2 PRELIMINARY EXAMINATIONS 2018

H2 ECONOMICS

9757/02

Paper 2 Essays

**12 September 2018
1400 – 1615 hrs**

TIME 2 hours 15 minutes

Additional materials: Answer paper
Cover page



INSTRUCTIONS TO CANDIDATES

Write your name and CTG on all the work you hand in.

Write in dark blue or black pen.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, glue or correction fluid.

Answer **three** questions in total, of which **one** must be from Section A, **one** from Section B and **one** from **either** Section A or Section B.

Start a **new** question on a **fresh** piece of paper.

At the end of the examinations, fasten your work securely in **three separate bundles**. Tie a cover page to the answer paper(s) for the **first** question attempted.

The number of marks is given in brackets [] at the end of each question or part question.

You are reminded of the need for good English and clear presentation in your answers.

Answer **three** questions in total.

Section A

One or two of your three chosen questions must be from this section.

- 1 The use of drones for aerial photography and racing are growing in popularity among the wider public. In the next five years, consumer drone sales volume is expected to increase more than tenfold, while average selling price for drones will continue to decline.

Discuss the different demand and supply factors and their likely importance in determining the anticipated changes in sales volume and price of consumer drones. [25]

- 2 (a) Explain the constraints faced by firms operating in a small economy. [10]
(b) Discuss the extent to which firms facing the above constraints are more vulnerable to closure in a global recession. [15]

- 3 In recent years, the Singapore government has been trying to encourage Singaporeans to reduce the consumption of sweetened beverages with high sugar content. This comes as data have shown that the consumption of such beverages comes at a cost to the society. Research lately has also shown that the consumption of such beverages is linked to poor dietary choices of Singaporeans.

- (a) Explain why the sweetened beverages market might fail. [10]
(b) Assess the effectiveness of the policies available to the Singapore government in overcoming the above market failure. [15]

Section B

One or two of your three chosen questions must be from this section.

- 4 The cost of living in Singapore has climbed. Yet, living standards is considered high and there is strong economic growth.
- (a) Explain the link between the standard of living, the cost of living and the economic growth rate of a country. [10]
- (b) Discuss how far fiscal policy can be used to achieve an improvement in living standards in Singapore. [15]
- 5 (a) Explain the internal and external factors that are likely to have contributed to rising inflation in Singapore. [10]
- (b) Discuss the economic policies that a government could adopt to tackle rising inflation. [15]
- 6 US President Donald Trump won support by tapping into workers' anger over job losses linked to globalisation. He has since pulled US out of the Trans-Pacific Partnership (TPP), a free-trade pact signed by countries including Japan, Australia and Singapore.
- Assess the likely impact of Donald Trump's decision, to pull the US out of the TPP, on the economic agents in US and the US economy. [25]

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Question 1: Fuel subsidies and vehicle emissions

- (a)** With reference to Figure 1, compare the trend in carbon dioxide emissions [2] for the European Union (EU) and China between 1990 to 2010.

Carbon dioxide emissions for EU was generally falling while that for China was generally increasing. (1)

The extent (or rate) of fall for EU was small (or gradual) but the extent (or rate) of increase for China was great (or exponential). (1)

- No marks for comparisons of LEVELS of carbon dioxide emissions.
- No marks if there were no comparisons.

- (b)** Explain what is meant by 'true costs' (mentioned in Extract 1). [2]

True costs refer to direct financial costs, spillover cost (negative externalities) and opportunity cost (next best alternative foregone).

1m for relating true cost to direct financial cost + spillover cost or opportunity cost.

1m for explaining/elaborating the spillover cost or opportunity cost.

- (c)** With reference to Extracts 1 and 2, discuss the impact of fossil fuel subsidies on the economic goal of inclusive and sustainable economic growth. [8]

Impact of fossil fuel subsidies on inclusive economic growth (3m)

- Fossil fuel subsidies → production cost of fossil fuel to fall → SS curve of fossil fuel to shift right (1) → surplus at original price → fall in price of fossil fuel (1) → increase affordability to fossil fuel (an essential) for low-income households/producers → improve inclusiveness of economic growth (1)

Extent of impact on inclusive economic growth (2m)

- It was mentioned in Extract 2 that low fuel prices mostly benefit the better-off than the poor as the better-off consume more fossil fuel (evidence: the poorest 20% received 7% of subsidy benefit, richest 20% received almost 43%).
- Therefore, the extent of improvement in inclusiveness of economic growth could be to a small extent.

Impact of fossil fuel subsidies on sustainable economic growth (3m)

- Fossil fuel subsidies → MPC of consuming/producing fossil fuel to decrease → MPC curve shift down (1) → MPC cuts MPB at higher Qp → worsen problem of over-consumption (1) → worsen market failure → worsen sustainable economic growth (1)

Extent of impact on sustainable economic growth (2m)

- It was mentioned in Extract 1 that fossil fuel subsidies will lead to higher environmental costs like global warming, air pollution. Figure 1 also supports this fact with ROW's and China's CO₂ emissions increasing exponentially.

- Therefore, the extent of worsening of sustainable economic growth is to a large extent.

Analysis on direction of impact: 3+3 = max 5

Analysis on extent of impact: 2+2 = max 3

- (d)** With reference to the material and the use of a diagram, explain the market failure in motor vehicles usage. [5]

- Motor vehicle users will equilibrate at $MPC=MPB \rightarrow Q_p$ (1)
- Usage of motor vehicles generate negative externalities $\rightarrow MPC+MEC=MSC \rightarrow MSC > MPC$ (1)
- Social equilibrium occurs when $MSC=MSB \rightarrow Q_s$ (1)
- $Q_s > Q_p \rightarrow$ over-consumption (1)
- Over-consumption \rightarrow welfare loss \rightarrow mkt failure (1)
- Diagram (1)

Max 5

No need to be too strict with respect to with reference to data. It is enough if the explanation keeps to negative externalities in terms of emissions from motor vehicle.

An explanation on traffic congestion will be considered theoretical/generic (max 3 if perfect).

- (e)** With reference to Extract 3, explain the likely value of the price elasticity of supply for electric cars. [3]

- PES value is likely to be $<+1$. (1)
- This is due to the lack of spare capacity or unsold stocks. (1)
- As can be saw from the difficulties in mining essential raw materials such as lithium and cobalt, making the supply of electric cars price inelastic. (1)

Or

- PES value is likely to be $<+1$. (1)
- This is due to the lack of responsiveness of quantity supplied to the increase in demand. (1)
- As can be saw from the waiting time and repeatedly extended delivery dates. (1)

- (f)** Discuss the effectiveness of promoting the use of electric vehicles in tackling the problem of global greenhouse emissions. [10]

Analyse how promoting the use of electric vehicles can tackle the problem of global greenhouse emissions

- Promoting the use of electric vehicles \rightarrow increasing the substitutability of electric vehicles and non-electric vehicles \rightarrow fall in DD for non-electric vehicles \rightarrow fall in MPB of using non-electric vehicles \rightarrow fall in vehicle usage, Q_p closer to Q_s \rightarrow reduction of global greenhouse emission.
- Diagram

Analyse how promoting the use of electric vehicles may not tackle the problem of global greenhouse emissions

- The relative price/cost of using electric vehicles vs non-electric vehicles.
 - o It can be seen from the Norway example, that even when the cost savings of using electric vehicles is 75% compared to diesel vehicles (which is attractive), the adoption rate is only about 20%.
 - o Therefore, unless these countries can bring down the relative cost of using electric vehicles significantly, promoting the use of electric vehicles may not tackle the problem of global greenhouse emissions. Extract 5 mentions that Singapore need to invest significantly in a network of strategically located and accessible charging stations for a wide adoption of electric vehicles.
 - o [Ev] The (opportunity) cost of promotion the use of electric vehicles could be substantial and therefore may not be feasible or sustained, as seen in the array of incentives in provided in Norway, e.g. no road tax, registration fee, not sales tax, no value-added tax, free public parking, exemption from tolls. Tax revenue could significantly be reduced. In the case of UK, government expenditure is bound to increase significantly as £900m is required to support the growth of its electric vehicle industry.
- The source of emission / nature of pollution
 - o Whether promoting the use of electric vehicles could reduce global emissions depend on the source of electricity generation.
 - o As mentioned, Poland uses high volumes of coal in generating electricity and the use of electric cars merely move pollution from cities to distant power plants.
 - o The carbon emissions from electric vehicles (or really the source of electricity generation) will depend if clean energy will continue to be cheaper and there is widespread adoption.
 - o The extra weight of batteries in electric cars could also mean more particle pollution instead of carbon emissions.
 - o Therefore, total global emissions may not be significantly reduced.

Synthesis or valued judgement

- While promoting the use of electric vehicles can reduce the emissions from vehicles usage, a lot will still depend on the source of electricity generation. Therefore, unless there are also efforts or measures taken to adopt cleaner energy sources, it is unlikely that promoting the use of electric vehicles is able to reduce global emissions in the short-term.
- We have seen from the analysis that promoting the use of electric vehicles is also costly and may not be feasible or sustained for certain countries, especially those with budget problems.
- The supply of electric vehicle is also highly price inelastic which limits the effectiveness at least in the short-run.

Mark scheme

Levels	Descriptors	Marks
L2	For a developed explanation of how promoting use of electric vehicles can reduce global emissions <u>AND</u> at least 1 limitation.	5 - 7
L1	For a developed explanation of how promoting use of electric vehicles can reduce global emissions <u>OR</u> 1 limitation. For an under-developed explanation (could be generic) of how promoting use of electric vehicles can reduce global emissions and at least 1 limitation. For an un-developed explanation (descriptive, inaccurate) of how promoting use of electric vehicles can or cannot reduce global emissions.	3 – 4 1 – 2
E	For an overall evaluation on the effectiveness. Merely stating with NO attempt to explain With attempt to explain but inaccurate / incoherent / incomplete Attempt to explain was accurate / coherent / contextual	0 1 2 - 3

[Total: 30]

Question 2: Brexit and its impact

Suggested Answers

(a)	With reference to Extract 6, explain the consequences of Brexit on UK's internal economy.	[6]
	<p><i>E4P1: "businesses defer whatever spending they can as investors hate uncertainty" and "US economy has been sluggish of late"</i></p> <p><i>E4P2: "spending on big-ticket items is likely to slump"</i></p> <p>Brexit → Increase in uncertainty / Fall in business (or investors') confidence in the UK → Fall in investment expenditure (I) as firms delay / shelf investment projects [2m]</p> <p>Sluggish US economy → American households consume less goods and services, including imports from UK → Demand for imports fall → UK's export revenue (X) falls [2m]</p> <p>Brexit → Bleak economic outlook → UK households spend less → Consumption expenditure (C) falls [2m]</p> <p>I, X and C fall → AD falls → Unplanned accumulation of stocks / inventories → Firms cut back on production, hiring less factors of production, including labour → Cyclical unemployment rises → Factor incomes fall → Induced consumption falls → Real national income falls by multiples → Negative economic growth; General price level falls [2m]</p> <p><i>Expect 2 main consequences on UK's internal economy – real national income and employment should come together</i></p> <p>Max 4m on how Brexit impacts the components of AD and/or AS. Max 2m on how AD and/or AS changes impacts the internal macro goals.</p>	
(b)	Explain how the following would be affected when interest rates are cut in UK.	
(i)	Consumption expenditure	[2]
	<p>Cut in interest rates → Cost of borrowing falls [1m] → Households borrow to buy big-ticket items → Consumption expenditure (C) rises [1m]</p> <p>Or</p> <p>Cut in interest rates → returns to savings falls [1m] → household cut down on saving and allocate more disposable income to consumption → C rises. [1m]</p>	
(ii)	Investment expenditure	[2]

		Cut in interest rates → Cost of borrowing falls → Previously unprofitable projects now become profitable [1m] → Investment expenditure (I) rises [1m]	
(c)		Discuss whether the data is useful to assess changes in living standards in the UK from 2015 to 2017.	[8]
		<p><u>Data provided suggest that living standards in UK has fallen</u></p> <p>Material standard of living has fallen</p> <p><i>Extract 4: "Some jobs will go, and wage growth will fall."</i></p> <p><i>Extract 5: "overall inflation up to 3.1 per cent last month, with wage inflation stuck at just over 2 per cent..."; "so real pay levels have been flat."</i></p> <p><i>Table 2: Nominal GDP per capita; trade in goods and services; average annual hours worked per worker</i></p> <p>Overall inflation at 3.1% while wage inflation stuck at 2% → rise in general price level faster than increase in wages; Nominal GDP per capita falling → Real purchasing power reduced, negatively affecting households' ability to consume goods and services → Less goods and services consumed</p> <p>Current account deficit falling / Current account balance improving could be due to falling M → Spending on imports fall</p> <p>Non-material standard of living has fallen</p> <p><i>Table 2: Average annual hours worked per worker</i></p> <p>Rise in average annual hours worked implies a fall in leisure hours</p> <p><u>Data provided suggest that living standards in UK may not have fallen</u></p> <p><i>Table 2: Annual GDP growth rate still positive; Gini coefficient: 0.50 → 0.489; Unemployment rate falling</i></p> <p>Material standard of living rose</p> <p>Real GDP growth rate still positive implies that real national income is still increasing; Falling unemployment rate implies more resources are employed → Rise in factor income → Rise in purchasing power → More goods and services consumed</p> <p>Gini coefficient falling implies a more equitable distribution of income as economy expands at a slower rate → Inclusive growth achieved</p> <p><u>Overall conclusion</u></p> <p>Even though the data provide information on how material and non-material aspects of standard of living UK may have changed from 2015 to 2017, it seems to be sending mixed signals.</p> <p>Thus, data provided is useful to a certain extent. More information is required, for instance, data showing changes in negative externalities, literacy rates, life expectancy would be useful to ascertain whether overall living standards in the UK has risen or fallen.</p>	

Mark scheme <table border="1"> <thead> <tr> <th>Levels</th><th>Descriptors</th><th>Marks</th></tr> </thead> <tbody> <tr> <td>L3</td><td>For a well-developed, balanced answer that explained whether data provided is useful to access changes in living standards in UK.</td><td>5 - 6</td></tr> <tr> <td>L2</td><td>For a developed but 1-sided answer on how the data is OR is not useful to access changes in living standards in UK. For an under-developed (have gaps) but somewhat balanced (2-sided) answer on whether data provided is useful to access changes in living standards in UK.</td><td>3 – 4</td></tr> <tr> <td>L1</td><td>For a descriptive / generic account (lifting of evidence from case material) of whether data provided can or cannot suggest that living standards may or may not have fallen</td><td>1 – 2</td></tr> <tr> <td>E</td><td>For an overall judgement on the overall usefulness of the data in accessing changes in living standards in UK.</td><td>1 – 2</td></tr> </tbody> </table>				Levels	Descriptors	Marks	L3	For a well-developed, balanced answer that explained whether data provided is useful to access changes in living standards in UK.	5 - 6	L2	For a developed but 1-sided answer on how the data is OR is not useful to access changes in living standards in UK. For an under-developed (have gaps) but somewhat balanced (2-sided) answer on whether data provided is useful to access changes in living standards in UK.	3 – 4	L1	For a descriptive / generic account (lifting of evidence from case material) of whether data provided can or cannot suggest that living standards may or may not have fallen	1 – 2	E	For an overall judgement on the overall usefulness of the data in accessing changes in living standards in UK.	1 – 2
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(d)	(i)	Explain the likely reason for the change observed in the value of yuan and China's foreign exchange reserves in Figures 2 and 3.																
		<p>The value of yuan was weakening, and the level of foreign exchange reserves was also falling. [1m]</p> <p>China's central bank, PBOC, could be intervening to support the yuan by selling foreign reserves to buy Chinese yuan to prevent the value of yuan from falling / depreciating further, thus resulting in the fall in the foreign exchange reserves. [2m]</p> <p>Full 2m may be awarded if answers are similar to the 2nd bullet as the relationship between the value of yuan and foreign exchange reserves can be inferred from the answer.</p>																
	(ii)	With reference to the data, assess whether PBOC should 'step in to slow yuan depreciation'.																
		<p>Whether PBOC will 'step in to slow yuan depreciation' depends on the benefits and costs of intervention. (Decision-making framework)</p> <p>Thesis: Benefits of stepping in to slow yuan depreciation</p> <p>Evidence</p> <p><i>E6P4: "Faster declines of the yuan risk reigniting a vicious cycle where expectations for further weakness quicken capital outflows."</i></p> <p>Positive impact on China's internal economy</p> <ul style="list-style-type: none"> - PBOC's intervention to slow yuan depreciation will prevent further capital outflow due to increased uncertainty → prevents further fall 																

	<p>in the value of the yuan → prevents Chinese economy from suffering from imported inflation which may raise the cost of living → worsening material standard of living in the country</p> <p>Positive impact on China's external economy</p> <ul style="list-style-type: none"> - Value of yuan is stabilised, prevents confidence of yuan from falling further, prevents domestic firms and households from sending earnings overseas → prevent 3rd round of capital outflow and further worsening of China's capital and financial account and balance of payments, ceteris paribus. <p>Anti-thesis: Costs of stepping in to slow yuan depreciation</p> <p><i>Evidence</i></p> <p><i>E6P1: "mounting economic uncertainty in Europe"</i></p> <p><i>E6P4: "Based on historical relations, a one percentage point drop in the EU's GDP growth could take 0.2 percentage points off China's GDP growth."</i></p> <p>Negative impact on China's internal economy</p> <ul style="list-style-type: none"> - Brexit brought about increasing economic uncertainty in Europe, which would most likely impact China's economy. Stepping in to slow yuan depreciation will make Chinese exports less competitive. Coupled with the rising economic uncertainty in Europe, households and firms in the UK and EU may hold back spending as a result of a fall in confidence → Export demand of China may fall → (X - M) fall → AD falls → Cyclical unemployment rises, and real national income falls by multiples (negative growth) <p>Negative impact on China's internal economy</p> <ul style="list-style-type: none"> - Stepping in to slow yuan depreciation may worsen China's balance of trade as X falls, leading to a worsening current account, ceteris paribus. - To slow yuan depreciation, PBOC has to buy up yuan in the foreign exchange market and sell foreign currencies. This increases the demand of yuan in the foreign exchange market, causing a shortage of yuan to arise at the original exchange rate. However, PBOC will deplete its holding of foreign reserves. <p>Synthesis / Overall conclusion</p> <p>Whether PBOC will 'step in to slow down yuan depreciation' depends on whether the value of yuan has fallen below the acceptable range. PBOC's decision will also depend on whether the benefits outweigh the costs.</p> <p>Possible points for evaluation:</p> <ul style="list-style-type: none"> - Extent of positive and negative impact depends on: <ul style="list-style-type: none"> ○ Proportion of (X – M) that makes up China's AD ○ Whether the government has policies in place to mitigate the negative impact, i.e. if government policies are insufficient or ineffective (government failure), the government may not be able to help the economy overcome the negative impact as well as reap the positive impact. This may result in negative impact outweighing the positive impact 	
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Mark scheme		
Levels	Descriptors	Marks
L3	For a well-developed explanation of both positive <u>AND</u> negative impact on China's internal <u>AND</u> external economy, with consistent application of AD/AS framework and links to China's economy.	6 - 7
L2	For a developed explanation of positive <u>OR</u> negative impact with consistent application of AD/AS framework, and links to China's economy. For an under-developed explanation of positive <u>AND</u> negative impact on China's economy, with inconsistent application of AD/AS framework or inconsistent links to China's economy.	3 – 5
L1	For a descriptive / generic account (lifting of evidence from case material) of the positive and negative impact, without linking to AD/AS framework and China's economy OR For an inaccurate explanation of the positive and negative impact	1 – 2
E	For an overall evaluation of whether China should or should not 'step in to slow yuan depreciation' Merely stating that China should / should not step in to slow yuan depreciation with NO attempt to explain Weighing of benefits and costs with attempt to explain but inaccurate / incoherent / incomplete Weighing of benefits and costs with attempt to explain accurately	0 1 2 - 3
	[Total: 30]	

2018 H2 Prelims P2

Q1

The use of drones for aerial photography and racing are growing in popularity among the wider public. In the next five years, consumer drone sales volume is expected to increase more than tenfold, while average selling price for drones will continue to decline.

Discuss the different demand and supply factors and their likely importance in determining the anticipated changes in sales volume and price of consumer drones. [25]

Suggested answer

Introduction	<p>The anticipated changes in sales volume and price of consumer drones can be explained through the application of demand and supply analysis along with elasticity concepts of PED and PES.</p> <p>The projected increase in sales volume (or increase in equilibrium quantity) can be explained through anticipated increases in both demand and supply of consumer drones whilst elasticity concepts can be applied to explain the significant increase in the sales volume of consumer drones.</p> <p>The projected price of consumer drones could be explained through the simultaneous increases in both demand and supply, with analysis on the extent of shift in the curves.</p>
<u>DD factors</u>	<p>The anticipated increase in sales volume for consumer drones could be explained by a rise in demand for consumer drones.</p>
DD factor #1 (change in taste and preferences)	<p>The increase in demand could be due to a change in taste and preferences towards the use of consumer drones. As there is a trend towards the application of consumer drones in areas such as aerial photography or a hobby, this increases the desirability of consumer drones to consumers which increases their willingness to purchase consumer drones at the different price levels. This results in an increase in demand for consumer drones.</p>
DD factor #2 (rise in income or expected rise in future income)	<p>The increase in demand could be due to an improvement in household income. Given the positive economic sentiments in economy and the anticipated positive economic growth into the next 5 years, income of households is likely to rise thereby increasing the purchasing power of consumers. Given that drones are likely to be a normal good (or even luxury good), when the income levels of consumers rise, they are likely to increases the ability and willingness of consumers in purchasing drones at different price levels. This increases the demand for drones.</p>
DD factor #3 (changes in technology)	<p>The increase in demand could be due to an improvement in the technology of consumer drones (e.g. more power – faster, fly higher, carry heavier load, more lasting batteries). As one of the uses of the consumer drones is in racing, consumers could be always looking to upgrade to more powerful drones. This will create an increasing willingness of consumers in purchasing drones, causes the demand for drones to increase.</p>

Relative importance of the DD factors (evaluation)	<p>While all 3 factors are likely to cause increase in DD for consumer drones. The change in taste and preferences and rise in income could be more significant factors contributing to the increase in the next five years. This is because as flying consumer drones becomes more popular, it will generate a lot of interest in consumers to own one, especially as a hobby or toy.</p> <p>Improvement in technology of consumer drones would likely affect the commercial users and racers, these are users who require more powerful performances.</p>
<u>SS factors</u> SS factor #1 (falling COP) SS factor #2 (increasing size of industry)	<p>The anticipated increase in the sales volume consumer drones could be explained by the expected rise in supply for consumer drones.</p> <p>The anticipated increase in supply of drones could be due to falling cost of production. When there is a falling price of computer parts and inputs, the unit cost of production falls and more profits is made by the producers at every price level. For instance, there are improvements in manufacturing techniques of computer chips, economies of scale, and software advances which continues to drive down cost of drone sensors. This causes firms to have greater willingness and ability to increase production of consumer drones and the supply of drones is expected to increase.</p> <p>The anticipated increase in supply of drones could be due to the increasing size of the drone industry. Rising venture capital investment in the drone industry will drive growth in both number of and size of drone start-ups which results in increasing ability to produce drones at different price levels. As a result, there is anticipated increase in the market supply for drones.</p>
Relative importance of the SS factors (evaluation)	<p>Both supply factors are likely to work in tandem. This is because when the COP decreases, the production and sale of consumer drones becomes more profitable and more producers will enter the industry.</p> <p>Also, when there are more producers in the industry, this will drive competition amongst themselves to drive improvements in production technology which drives COP down.</p>
Simultaneous shifts in DD and SS to explain extensive increase in quantity and fall in price	<p>The anticipated increases in both supply and demand of drones will explain the anticipated increase in sales volume. Simultaneous shifts in DD and SS could be used to explain the anticipated fall in price, the anticipated increase in supply of drones has to be larger than the anticipated increase in demand for drones.</p> <p>The rapid increase in supply of drones is likely due to rapid technological advancements which is expected to continuously lower cost of production significantly. On the other hand, the increase in demand for drones might be relatively smaller than the increase in supply as the market may reach a point of saturation (i.e. consumers already own a drone and there is no real need for more drones except for the professional users) and the increase in demand may taper off.</p>

	Since the increase in DD is less than the increase in SS, there will be surplus of drones which causes a downward pressure on the price of drones. Price will continue dropping until both quantity demand and quantity supplied of droids arrive at a new equilibrium price and quantity.
Application of PES to explain the sharp increase in output of drones	<p>Furthermore, application of PED and PES can be used to explain the sharp increase in the equilibrium quantity of drones.</p> <p>As the PES for drone production is likely to be price elastic in supply as drones are manufactured, non-perishable products and there is likely to be availability of spare capacity in terms of a buffer stock of. As a result, firms are likely to be more responsive to changes in prices as the producers can draw down on the inventories to meet increases in demand, resulting in a relatively flat SS curve. Hence, increase in demand with a relatively flat SS curve will lead to a sharp rise in output of drones.</p>
Application of PED to explain the sharp increase in output of drones	PED for drones is likely to be price elastic in demand since drones are less of a necessity for consumer users. There could also be different substitute toys or hobbies. Hence, consumers are likely to be price sensitive to changes in the price of drones leading to relatively flat DD curve. Hence, increases in supply is likely to lead to sharp increases in output.
Conclusion	<p>Both demand and supply factors are important in determining the anticipated changes in sales volume and price of consumer drones however not all factors are of equal importance.</p> <p>The rise in supply is likely to exceed the rise in demand – and hence said to be more important than demand factors in determining the anticipated fall in price of consumer drones.</p>

Mark scheme

Level	Knowledge, Application, Understanding, Analysis
L3 (18-20)	<ul style="list-style-type: none"> Conceptually accurate and well-developed analysis of how demand and supply factors determine anticipated changes in sales volume and price of drones <ol style="list-style-type: none"> Incorporating at least 2 +1 demand and supply factors incorporating simultaneous shifts + extent of shifts In-depth application and explanation of elasticity concepts Well-illustrated with real-life examples related to drones. <p>i.e. 1+2+3+4</p> <p>** Note: For elasticity concepts and simultaneous shifts, the recognition that there is a need to determine YED value, relative extent of shift, PED/PES are credited in L marks. Only the attempts to justify will be credited with evaluation.</p>

Low L3 (15-17)	<ul style="list-style-type: none"> • Generally cohesive explanation, demonstrating good knowledge of both demand and supply factors determine anticipated changes in sales volume and price of drones <ol style="list-style-type: none"> 1. Incorporating at least 1+1 demand and supply factors 2. incorporating simultaneous shifts + extent of shifts 3. Some application and explanation of relevant elasticity concepts. + Well-illustrated with real-life examples related to drones. 4. Or in-depth application and explanation of elasticity explanations + inconsistent use of real-life examples to illustrate the explanation. <p>i.e. only 3rd or 4th aspects can be slightly lacking, not both.</p> <p>If both 3rd and 4th aspects are slightly lacking, cap at 15.</p>
L2 (9-14)	<ul style="list-style-type: none"> • Under-developed but conceptually sound explanation of demand and supply shifts <ol style="list-style-type: none"> 1. Could be lop-sided with focus mainly on demand or supply 2. Simultaneous shifts but did not consider extent of shifts 3. limited in applying or explaining the elasticity concepts. 4. Some use of real-life examples <p>Cap at 11 marks if either elasticity concepts or simultaneous shifts of DD and SS are not brought up.</p>
High L1 (5-8)	<ul style="list-style-type: none"> • Explanations have some incidental points made relevance to the context of the question. • Conceptually incompetent, but able to explain with limited scope and depth of factors affecting demand and supply shifts.
Low L1 (1-4)	<ul style="list-style-type: none"> • Answers that have little relevance to the question. • Major and glaring conceptual inaccuracies or no conceptual support.
E3 (4-5)	<p>Well-supported evaluative judgement which uses economic analysis to support judgement on importance of demand &/or supply factors in determining anticipated changes in sales volume and price of consumer drones.</p> <p>Possible ways to be credited for evaluation:</p> <ol style="list-style-type: none"> 1) Judgement on the likely PED/PES values 2) Judgement on the extent of shifts in DD and SS 3) Judgement on relative importance of individual DD and SS factors <p>Cap at E2-3 should a student make no explicit stand on the importance of DD and SS factors.</p>
E2 (2-3)	<p>For an answer that makes an attempt at an evaluative judgment on the importance of demand &/or supply factors in determining anticipated changes in sales volume and price of consumer drones.</p>
E1 (1)	<p>Evaluative judgment provided but unelaborated on.</p>

Q2

- a) Explain the constraints faced by firms operating in a small economy. [10]
 b) Discuss the extent to which firms facing the above constraints are more vulnerable to closure in a global recession. [15]

(a) Explain the constraints faced by firms operating in a small economy. [10]

Suggested answer

Introduction	<p>Small economy can be characterised by</p> <ul style="list-style-type: none"> - small physical size - small GDP level - small population - small domestic sector
Constraint #1 (lack of resources)	<p>In a small economy, like Singapore, firms are likely to experience a lack of resources due to the small physical size and population size. Hence, they are likely to face higher fixed and variable costs.</p> <p>This may lead to firms to experience external diseconomies of scale very early as firms will compete for the limited resources including labour and land. The high competition for resources (e.g. labour) will lead to high average cost of production (e.g. wages for workers) which results in higher average variable costs of firms in the small economy. As a result, firms in a small economy experience higher MC and AC curves and thus end up making lower profits, assuming revenue is held constant.</p> <p>For example, firms in Singapore face high rental cost due to scarcity of land thereby giving rise to high fixed cost. Also, the tight labour market has also pushed up labour cost for firms in a small economy like Singapore.</p> <p>* we can also accept lack of capital and entrepreneurship as constraints</p>
Constraint #2 (small domestic market)	<p>The second constraint faced by firms operating in a small economy is that face a small market demand due to a small population forming a small consumer base. This will affect the revenue they can possibly earn.</p> <p>Since market size is a determinant of demand, a small market size leads to a relative low demand for the firm's goods and services thereby contributing to a low AR curve even for the monopolistic or oligopolistic firms.</p> <p>This means that each firm would have a relatively more price elastic demand curve (compared to firms in bigger economies). Hence, these firms would not be able to raise their price significantly to increase total revenue as it would lead to a more than proportionate decrease in quantity demanded, ceteris paribus.</p>
Constraint #3 (lack of another FOP)	The 3 rd constraint will be similar in explanation to Constraint #1. However, the choice of examples and the exact explanation should differ.

Mark scheme

L1 1 – 4	<i>For an answer that shows little understanding of the constraints faced by firms in a small economy.</i>
L2 5 – 7	<i>For an underdeveloped explanation on the constraints faced by firms in a small economy. [at least one constraint]</i>
L3 8 – 10	<i>For a well-developed explanation on the constraints faced by firms in a small economy. [at least two constraints]</i>

(b) Discuss the extent to which firms facing the above constraints are more vulnerable to closure in a global recession. [15]

Suggested answer

Introduction	When a global recession hits, household incomes fall thus leading to a fall in purchasing power and a fall in demand for all normal goods and services. This is usually reflected by a decrease in a firm's AR and MR.
Thesis #1 (firms facing the above constraints are more vulnerable to closure in a global recession)	<p>Following part a), since such firms are likely to be faced with higher MC and AC. Given the fall in AR and MR due to the global recession, it is more likely that these firms will fall into a subnormal profits situation.</p> <p>(Use diagrams to illustrate, similar fall in AR and MR but different level of MC and AC initially).</p>
Anti-thesis #1 (firms facing the above constraints are NOT more vulnerable to closure in a global recession)	<p>Some of these firms facing the constraints may turn to or rely on imported raw materials for their FOPs. Therefore, there is a chance that their MC and AC will also fall during a global recession. This is because during a global recession, production will slow down and the demand for factor inputs will also fall, leading to a fall in prices of factor inputs. MC and AC may fall to cushion some of the fall in AR and MR.</p>
Thesis #2 (firms facing the above constraints are more vulnerable to closure in a global recession)	<p>Similarly, since such firms are likely to be faced with a lower AR and MR. Given the fall in AR and MR due to the global recession, it is more likely that the firms selling normal goods will fall into a subnormal profits situation (even more so for firms selling luxurious goods).</p> <p>(Use diagrams to illustrate, similar fall in AR and MR but different level of AR and MR initially).</p> <p>A similar analysis will apply even if these firms are able to export because a global recession affects both domestic and external demand.</p>

	This will hurt firms whose operations and factor inputs are inflexible to be converted to other production.
Anti-thesis #2 (firms facing the above constraints are NOT more vulnerable to closure in a global recession)	<p>While the Thesis #2 analysis will apply to firms in general, it also depends on the nature of products these firms are selling. If the firm sells an inferior good, the AR and MR will increase instead of falling.</p> <p>Also, firms who are more flexible in their operations and production could turn to producing other goods and services to cope with the fall in demand for their main products.</p>
Synthesis	<p>The extent to which firms facing the above constraints are vulnerable to closure in a global recession depends on</p> <ul style="list-style-type: none"> - the nature of product (inferior vs necessity vs luxury) - utilisation of domestic factor inputs vs imported factor inputs - flexibility in the nature of production
Conclusion	Therefore, we cannot conclude that firms facing the above constraints are more vulnerable to closure, we will need to examine the nature of the industry.

Mark scheme

Level	Descriptors
L3 8 – 10	For a well-balanced (at least 1+1) answer which provides a thorough analysis (includes diagrams or at least AR, MR, AC, MR analysis) on whether firms facing the above constraints would be more vulnerable to closure.
L2 5 – 7	<p>For a balanced answer that provides an underdeveloped (some gaps, minor misconception or largely accurate) explanation on whether firms facing the above constraints would be more vulnerable to closure.</p> <p>Or</p> <p>For a one-sided answer that provides a thorough analysis on why firms facing the above constraints are more vulnerable to closure OR not more vulnerable to closure.</p>
L1 1 – 4	For a skimpy and vague answer or an inaccurate interpretation of question
E3 4 – 5	Well explained points of evaluation.
E2 2 – 3	Somewhat explained points of evaluation.

E1 1	Stating points of evaluation, points not explained
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Q3

In the recent years, the Singapore government has been trying to encourage Singaporeans to reduce the consumption of sweetened beverages with high sugar content. This comes as data have shown that the consumption of such beverages comes at a cost to the society. Research lately has also shown that the consumption of such beverages is linked to poor dietary choices of Singaporeans.

- a) Explain why the sweetened beverages market might fail. [10]
- b) Assess the effectiveness of the policies available to the Singapore government in overcoming the above market failure. [15]

Suggested Answer for (a)

Part (a)	
<u>Introduction</u> Set out content and structure for essay	<p>Sweetened beverages with high sugar content are considered a demerit goods whereby the government deems as undesirable but is over-consumed. Sweetened beverages are over-consumed due to imperfect information of the actual damaging effects to their health. In addition, the consumption of sweetened beverages give rise to negative externalities which imply that the private costs incurred by the individual consumer are less than the social costs experienced by society.</p> <p>Due to negative externalities and imperfect information, the unregulated market is unable to allocate resources efficiently to maximise society's welfare, hence the free market fails.</p>
<u>Body</u> Explain why market failure that arises from imperfect information	<p>Consumers of sweetened beverages tend to underestimate their private costs incurred from the consumption of sweetened drinks due to imperfect information. This can be in terms of understanding the full extent of damage that drinking of sweet drinks can bring to oneself, such as the increased possibility of contracting diabetes or becoming obese, or even to underestimating the likelihood of this happening to oneself. As such, their perceived marginal private cost ($MPC_{perceived}$) from drinking sweetened beverages is lower than the actual marginal private cost (MPC_{actual}).</p> <p>Rational consumers maximise their self-interest when they equate MPB with their perceived MPC and consume more sweetened beverages (Q_p) than they would, had information been perfect (Q_a).</p> <p>Also, the consumers' Marginal Private Benefit (MPB) reflects the additional benefits they derive from consuming an additional sweetened beverage. These private benefits can be in the form of satisfaction derived. On the other hand, the actual Marginal Private Cost (MPC) reflects the additional cost incur from consuming an additional bottle of drink. Such private costs include the price paid for the beverage, increased possibility of contracting health problems such long-term diabetes problem, and the possibility of becoming obese. Assuming rational decision making by the consumers,</p>

	<p>consumers will maximise their self-interest (i.e. net private benefits) when they consume at output Q_a where MPB equals $MPC_{(actual)}$, assuming perfect information.</p>
<u>Body</u> Explain why market failure that arises from negative externalities	<p>Negative externalities are however generated in the consumption of sweetened beverages. Negative externalities are external cost borne by third parties who are neither the producer nor the consumer of the good, without compensation. Consumption of sweetened beverages not only affects the consumer, but the health problems associated with drinking too much sweet drinks may affect the economy whereby there would be decreased in productivity limiting economic growth or increased amount of tax revenue going to healthcare subsidies instead of economic development. The presence of negative externalities, or marginal external costs [MEC], result in the divergence between $MPC_{(actual)}$ and Marginal Social Cost (MSC), i.e. opportunity cost to society incurred when an additional bottle of drink is consumed.</p>
<u>Explain how market fails</u>	<p>Social welfare is maximised where the Marginal Social Benefit (MSB) is equal to the MSC. Assuming no positive externalities, i.e. $MSB = MPB$, the socially optimal consumption level is at Q_s where net social benefits are maximised. Where beverage consumption between Q_s and Q_p, MSC is always greater than MSB. For every additional bottle of beverage consumed, the additional cost to society is greater than the additional benefit. Hence society desires less of sweetened beverage consumed. There is over-consumed by an amount of $Q_s Q_p$, overallocation of resources to the consumption of sweetened beverages. Summing up the excess of MSC over MSB between Q_s and Q_p, there is a welfare loss to society.</p>

<u>Conclusion</u>	Due to the presence of negative externality and imperfect information, the consumption of sweetened beverage leads to market failure.
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Marking Scheme

L3	For a thorough (both sources) and well-developed explanation (include diagram) of how negative externalities AND imperfect information may lead to market failure using accurate economic concepts, with appropriate examples provided and elaborated.	8 – 10
L2	<p>For an under-developed explanation (some gaps, minor mistakes, generally accurate still) on how negative externalities AND imperfect information lead to market failure. May contain some conceptual errors but appropriate economic concepts and analysis used. Some examples provided but not well-explained.</p> <p>Or</p> <p>Well-developed (include diagram) explanation with the use of relevant examples on how EITHER negative externalities OR imperfect information (only 1 source covered) leads to market failure.</p> <p>Theoretical answer without the use of appropriate examples – Cap at L2 – 7m</p>	5 – 7
L1	For an undeveloped answer that shows knowledge of the reasons for market failure but contains a few valid points or is mostly irrelevant or inaccurate.	1 – 4

Suggested Answer for (b)

<u>Introduction</u> Set out structure and content for essay	Left to the free market, demerit goods like sweetened beverages with high sugar content will be over-consumed resulting in welfare loss. Governments hence need to respond to achieve a better allocation of scarce resources to maximise society's welfare. To overcome market failure, the government can put in place taxes, laws and regulations which regulate consumer behaviour as well as educating the public by providing more information on the costs of drinking sweetened beverages.
<u>Body</u> Explain how taxation works to correct market failure.	Taxes (Sugar tax) may be imposed on producers → increase in MPC that reflects the MEC at Q_s , as well as the perception gap between perceived and actual benefits. If the tax can be calculated to accurately reflect the difference between MSC and $MPC_{perceived}$ at Q_s , consumers MPC(perceived) will shift left to coincide with MSC at Q_s . There will no longer be welfare loss from drinking sweetened beverages and market failure will be fully addressed.

Discuss the limitations of taxation	<p>However, taxation suffers from the practical difficulty of determining the difference between MSC and MPC_(perceived) at the socially optimal level of output, Q_s. An undervaluation of the tax would be insufficient to drinking of sweetened beverages down to the socially optimal level. On the other hand, an overvaluation of the tax will mean that consumption is reduced beyond Q_s. But then again, society's welfare is not maximised.</p> <p>Demand for sweetened beverages may be price inelastic (lack of substitutes) → increase in price may be ineffective to reduce quantity demanded of sweetened beverages → A huge amount of tax would then be needed to bring consumption down.</p>
Explain how moral suasion / education and campaign works to correct market failure	<p>Governments can also implement public education campaigns to increase the awareness of the ill effects of consuming sweetened beverages with high sugar content</p> <p>This can include national campaigns, school efforts and advertisements on television to encourage people to reduce consumption (provide relevant examples).</p> <p>By raising people's awareness, it may reduce the information gap between MPC_(perceived) and MPC_(actual) such that consumption can be nearer to Q_a.</p>
Discuss the limitation of	Even though it tackles the root cause of market failure (imperfect information), this policy may take a long time before any significant

education and campaign	reduction in consumption of sweetened beverages. This could be due to the habitual consumption pattern of consumers. As a result, consumers' habits / mind-sets are hard to change, and they may not be receptive to public campaigns or moral suasion. Therefore, this policy may be ineffective in the short run.
Explain how regulation works to correct market failure (optional)	<p>The health promotion board may put a restriction on the advertising of sweetened beverages containing sugar level over a certain amount → this prevents misinformation, reducing the gap between MPCactual and MPCperceived.</p> <p>The government may also restrict the amount of sweetened beverages sold in school or limit the sales of beverages to "healthier choice" beverages, which has lower sugar content. → this would directly reduce the consumption of sweetened beverages with high sugar content.</p> <p>Furthermore, school children are likely to be more susceptible to misinformation from advertisements or external media influences → hence by regulating the consumption in schools may be effective in reducing the consumption and reliance on sweetened beverages with high sugar content.</p> <p>The government may also regulate the production market, by tightening the criteria for drinks to be considered "healthier choice" (i.e. reducing the sugar content in drinks) → provide more substitutes for consumers, making demand for high sugar content drinks price more price elastic. EV: taxes will then be more effective as the increase in price will lead to a more than proportionate decrease in consumption.</p>
Discuss the limitations of regulations	<p>However, inspections must be sufficiently frequent and rigorous, and the communication of expected standards for compliance must be clearly communicated for the regulation to be effective. For example, canteen vendors may ignore and make sweetened beverages available to the school children.</p> <p>Regulations does not tackle the root cause of the problem → these school kids may resort to drinking of these drinks outside of school</p> <p>In addition, to reduce sugar content in sweetened beverages is entirely up to the firms' decision → if the firms are not aligned with the government's aims then tightening the "healthier choice" requirement may not be effective.</p> <p>EV: Nonetheless, regulations are the most effective if the government thinks the problem is grave and needs immediate addressing. However, the government need a more sustainable solution.</p>
<u>Conclusion</u> Discuss which policy may be the most effective	The various policies available for Singapore government to overcome market failure due to the consumption of sweetened beverages with high sugar content are effective. Singapore government needs to implement a multitude of policies because of both the presence of negative externalities and imperfect information. While taxes may force consumers to internalise

	<p>the negative externalities, public education and campaign enables consumers to make more accurate decisions.</p> <p>In addition, to effectively overcome market failure, the government may also want to implement regulations if the extent of overconsumption is severe. Furthermore, public campaigns are effective only in the long run and success is not guaranteed. Hence, the government may regulate the market to bring down the consumption in the meantime.</p> <p>Therefore, to effectively reduce consumption of sweetened beverages with high sugar content, Singapore government needs to implement a variety of policies. Also, the government may need to constantly review its policies as well as the nature of the problem may change over time. I.e. with the growth of mass media and advertising, information failure may be more persistent and pervasive. Government may thus step up its campaign or regulations to counter such misinformation and tie up with the private firms to create greater healthier choice options for the public.</p>
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Marking Scheme

Level	Descriptor	Marks
L3	<p>For an answer that gives an accurate interpretation of question and application of economic concepts. Answers should also contain detailed economic analysis with appropriate use of the context given in the question and accurate interpretation of information in the preamble.</p> <p>To score [10m], the following must be satisfied:</p> <ul style="list-style-type: none"> - At least 2 policies - Good explanation of how each of the policy works - Good explanation of the merits and limitations of each of the policy - Clear use of economic analysis / diagrams where applicable <p>** Policies such as quotas and subsidies can be accepted.</p>	8 – 10
L2	<p>For an under-developed answer that explained at least 2 policies (including merits and limitations) with accurate economic analysis with attempt to address the context of the question. [lacking depth] – max L2-7</p> <p>For a developed answer that explained only 1 policy (including merits and limitations) with complete and accurate analysis and consistent reference to the context. [lacking scope] – Max L2-5m</p> <p>For an answer that explained only how at least 2 policies work without limitations of the policies, but with complete and accurate analysis and consistent reference to the context. [lacking scope] – Max L2-6</p> <p>For an answer that only explained the merits and limitations of at least 2 policies, but with complete and accurate analysis and consistent reference to the context [Lacking scope] – Max L2-6</p>	5 – 7

	** For an answer that explained more than 2 policies, if 1 policy is explained with complete and accurate analysis and consistent reference to the context with the other policies lacking some depth – can obtain L3-8	
L1	<p>For an answer that gives an inaccurate interpretation of the question and application of economic concepts. Answer also contains inaccurate / no economic analysis with inappropriate / lack the use of the context given in the question. Information given in the preamble is inaccurately interpreted or not used.</p> <p>For answers in this range, we should expect:</p> <ul style="list-style-type: none"> - Mostly descriptive statements with no attempt at explanation - Major content errors - Not answering the question at all 	1 – 4
E3	<p>Well-explained reasoning with relevant economic analysis and good use of context (sweetened beverages in Singapore market).</p> <p>Example, the policies mentioned above are implemented together to ensure efficiency in the long term → any reasonable attempt to justify this approach using economic analysis is acceptable.</p>	4 – 5
E2	Attempted to explain the reason for the stand, with incomplete reasoning.	2 – 3
E1	State whether the policies available to the Singapore government are effective.	1

Q4

The cost of living in Singapore has climbed. Yet, living standards is considered high and there is strong economic growth.

- c) Explain the link between the standard of living, the cost of living and the economic growth rate of a country. [10]
- d) Discuss how far fiscal policy can be used to achieve an improvement in living standards in Singapore. [15]

Suggested approach for (a)

- Introduction:
 - o Define SOL, COL and economic growth
- Body:
 - o Explain links betw SOL and COL.
 - o Explain links betw SOL and economic growth
 - o Explain links between COL and economic growth
- Conclusion

Suggested Answer for (a)

<u>Introduction</u> Definition of SOL, COL and economic growth	<p>SOL measures the level of wealth, comfort, material goods and necessities which individuals and households can enjoy.</p> <p>The qualitative or material aspects of SOL is affected by the quality and quantity of goods and services consumed while the quantitative or non-material aspects of SOL is affected by leisure, absence of pollution, life expectancy, standard of education and other social factors.</p> <p>COL is the cost of maintaining a certain level of SOL.</p> <p>COL is affected by the changes in the general price level in the economy, usually measured using consumer price index (CPI).</p> <p>Economic growth is the increase in production of goods and services in an economy and is usually measured by the changes in real GDP accompanied by income inequality and environmental sustainability indices (e.g. gini coefficient and pollution index).</p>
<u>Body</u> Explanation of the link between SOL and COL	<p>The level of SOL is affected by the COL in a country.</p> <ul style="list-style-type: none">- This is because the COL or general price level in an economy affects the real purchasing power of income which affects the level of material SOL.- Therefore, the higher the COL, the lower the SOL, ceteris paribus and vice-versa.- For example, if the COL is rising faster than the nominal income is rising, SOL fall as the real income level falls. Or if COL is rising, households will need a higher level of nominal income to maintain their current level of SOL.

<u>Body</u> Explanation of the link between SOL and economic growth	<p>As the level of SOL in a country is affected by the income level and the price level (or real income), real economic growth directly affects the level of SOL.</p> <ul style="list-style-type: none"> - If a country experiences positive economic growth (accompanied with falling unemployment), it means the real GDP or income level is rising and more households will have a higher purchasing power, contributing to higher consumption level and material SOL and vice-versa - A country experiencing positive economic growth is more likely to have more resources (higher income for households, higher profits for firms and higher tax revenue for government), this will allow for more efforts to be channelled to improving inclusive and sustainable growth. E.g. firms are able to invest in cleaner methods of production, governments are able to redistribute tax revenue to subsidise or provide social amenities.
<u>Body</u> Explanation of the link between COL and economic growth	<p>As explained before, the COL in a country is dependent on how the GPL is changing.</p> <ul style="list-style-type: none"> - Economic growth can be caused by either increase in AD or increase in AS or both. - If economic growth is due to increases in AD, there will be higher demand-pull inflation and COL will become higher than before. - However, if economic growth is due to increases in AS, GPL will actually fall and COL could become lower.

Mark Scheme

L3	For a well-developed explanation of the links between SOL+COL, SOL+EG and COL+EG using accurate economic concepts/models, with use of appropriate examples for illustrations.	8 – 10
L2	<p>For an under-developed explanation (some gaps, minor mistakes, generally accurate still) of the links between SOL+COL, SOL+EG and COL+EG. May contain some conceptual errors but appropriate economic concepts/model are applied or some examples used are not well-explained.</p> <p>Or</p> <p>Well-developed explanation with the use of relevant examples on only 2 links.</p>	5 – 7
L1	For an undeveloped answer that shows knowledge of the links but contains a few valid points or is mostly irrelevant or inaccurate.	1 – 4

- b) Discuss how far fiscal policy can be used to achieve an improvement in living standards in Singapore. [15]

Suggested approach for (b)

- Introduction:
 - o Briefly explain the tools of FP and the links to SOL
- Body:
 - o Thesis: FP can be used to achieve improvement in SOL in S'pore to a large extent
 - o Anti-thesis: FP can be used to achieve improvement in SOL in S'pore to a small extent or FP CANNOT be used to achieve improvement in SOL in S'pore
- Conclusion
 - o Synthesis: arrive at a reasoned stand on how far FP can be used to achieve an improvement in SOL in S'pore

Suggested Answer for (b)

<u>Introduction</u> Briefly explain the tools of FP and the links to SOL	Discretionary FP can be implemented by the Singapore government in term of increases in government spending (G), e.g. developmental spending or re-current spending or reduction in direct tax rates (T), e.g. personal income tax or corporate tax. The changes in G and/or T will then affect the macroeconomy and the impact can be analysed using an AD-AS model.
<u>Body</u> Thesis: FP can be used to achieve improvement in SOL in S'pore to a large extent	<p>Argument #1</p> <p>The increase in G → increase in AD The reduction in personal income tax rates → increase in disposable income → increase in purchasing power for households → increase in consumption → increase in AD. The reduction in corporate tax rates → increase in post-tax profits → increase in profitability for firms → increase in incentives to invest → increase in investment → increase in AD</p> <p>The increase in AD → unplanned running down of stocks → firms stepping up production → firms employing more FOPs, including labour → firms paying out more factor income → inducing households to further increase consumption → further unplanned running down of stocks → generating a multiplier effect → increase in employment and national income level → increase in material SOL.</p> <p>Evaluation:</p> <ul style="list-style-type: none"> - The above effect is particularly important especially in times of poor economic climate when AD could be falling resulting in falling income for the households. Fiscal policy will be an appropriate short-term policy to stimulate the economy <p>Argument #2</p>

	<p>The increase in G not only increases AD but have other effects as well. G can be spent on the development of amenities, e.g. parks, sanitation or provision of merit goods such as better healthcare services, better educational and training opportunities.</p> <p>If G is spent on amenities like parks (marina barrage, botanical gardens, east coast park), there will be more spaces for households to relax, unwind or have recreation with their families and friends. There will reduce the stress level and create opportunities for family bonding or friends to hang out. This will improve the non-material SOL.</p> <p><u>Evaluation:</u></p> <ul style="list-style-type: none"> - The above effect is particularly important in small country like Singapore where land-spaces are limited and also that the population generally works very hard. Creating the spaces to relax and unwind will go a long way to improving the non-material SOL. <p>If G is spent on education and skills training, the increase in skills level of the current and future work force will increase the employability of workers. This will allow them to enjoy higher income levels which will enhance their material SOL.</p> <p><u>Evaluation:</u></p> <ul style="list-style-type: none"> - The above effect is particularly important in small and open country like Singapore where there is fierce competition with increasing globalisation. There are other economies competing with S'pore for FDI and export markets. Ensuring that the workforce stay competitive will go a long way to ensuring SOL will continue to improve over the long term. <p><u>Other possible arguments</u></p> <ul style="list-style-type: none"> - Redistributive effects on direct taxes → more inclusive EG → increase in SOL for the general population. Ev: especially important in S'pore where income inequality is widening.
<u>Body</u> Thesis: FP can be used to achieve improvement in SOL in S'pore but to a small extent Or FP CANNOT be used to achieve improvement	<p>Counter - Argument #1</p> <p>While FP will create a multiplier effect on the S'pore economy which leads to higher income, employment and better SOL. This effect could be limited due to the small domestic sector in S'pore, i.e. C/GDP, G/GDP are relatively smaller compared to other countries. While the I/GDP proportion could still be relatively higher compared to other countries, domestic investment takes up only a small proportion of total investment. Therefore, the increase in AD created by EFP could be to a small extent.</p> <p>Together with the fact that S'pore also has a small multiplier size due to the high MPS – CPF and Asian thrift, high MPM – small economy dependent on imported raw materials and final goods and services. The increase in income due to the increase in AD could be limited to a small extent.</p>

in SOL in S'pore	<p>Therefore, while FP can lead to improvement in SOL, the extent could be limited.</p> <p>Counter - Argument #2</p> <p>While G spending on skills training could help increase the skills of the labour force and enhance employability and future SOL, the extent of effectiveness in improvement SOL still depends a lot on the mindset of firms and workers towards skills and re-training.</p> <p>If the firms and workers are resistant to the skills and re-training mindset, the extent to which G spending can improve SOL could be limited. This is especially the case with rapid changes in technology and globalisation where the job requirements are rapidly changing and if workers are not consistently upgrading themselves, they could be left behind soon.</p>
<u>Conclusion synthesis</u>	<p>FP remains one of the tools the S'pore government can use to improve SOL for Singaporeans. However, we have also seen from the analysis above that FP by itself could be limited in ensuring improvement in SOL.</p> <p>The S'pore government could also implement exchange rate policy to stimulate exports and FDI inflow which are also key drivers of EG and improvement in SOL.</p> <p>While subsidies for skills training are also crucial to ensure improvement in long-term SOL, the S'pore government should also invest resources to change the mindset of resistant workers or firms.</p>

Mark Scheme

Level	Descriptor	Marks
L3	<p>For an answer that gives an accurate interpretation of question (how far FP can be used) and application of economic concepts (AD-AS model, multiplier, mat and non-mat SOL). Answers should also contain detailed economic analysis with appropriate use of the context given in the question (Singapore).</p> <p>To score L3, the following must be satisfied:</p> <ul style="list-style-type: none"> - At least 2 arguments (1+1) - Good explanation of FP and how FP works to improve SOL - Good explanation of the extent FP could be used, or extent FP leads to improvement in SOL - Clear use of S'pore context/examples to illustrate the main points 	8 – 10
L2	For an under-developed answer (few gaps, few mistakes) that addressed the question (how far FP can be used, 2-sided) with accurate economic analysis with attempt to address the context of the question. [lacking depth]	5 – 7

	For a developed answer that explained only 1 side of the analysis with complete and accurate analysis and consistent reference to the context. [lacking scope]	
L1	<p>For an answer that gives an inaccurate interpretation of the question and application of economic concepts. Answer also contains inaccurate / no economic analysis with inappropriate / lack the use of the context given in the question. Information given in the preamble is inaccurately interpreted or not used.</p> <p>For answers in this range, we should expect:</p> <ul style="list-style-type: none"> - Mostly descriptive statements with no attempt at explanation - Major content errors - Not answering the question at all 	1 – 4
E3	Well-explained reasoning with relevant economic analysis and good use of context (FP and SOL in S'pore). E.g. how FP must be complemented by other policies to ensure SOL improves.	4 – 5
E2	Attempted to explain the reason for the stand, with incomplete reasoning.	2 – 3
E1	State the extent FP can be used by the Singapore government to improve SOL.	1

Q5

- e) Explain the internal and external factors that are likely to have contributed to rising inflation in Singapore. [10]
f) Discuss the economic policies that a government could adopt to tackle rising inflation. [15]

Suggested approach for (a)

- Introduction:
 - o Define inflation
 - o Identify the factors contributing to rising inflation (categorised into internal and external)
- Body:
 - o Explain at least 1 internal factor contributing to rising inflation
 - o Explain at least 1 external factor contributing to rising inflation
 - o Explain a 3rd factor (either internal or external) contributing to rising inflation
- Conclusion

Suggested Answer for (a)

<u>Introduction</u> Define inflation	Inflation is defined as the sustained, inordinate increase in general price level.
ID the factors contributing to inflation	Rising inflation can be caused by demand-pull and/or cost-push reasons. Factors contributing to demand-pull inflation are: <ul style="list-style-type: none">- Internal: strong domestic consumers and investors sentiments- External: export-driven DD-pull Factors contributing to cost-push inflation are: <ul style="list-style-type: none">- Internal: tight labour market, rising land cost, rising transportation cost- External: imported inflation, depreciation of SGD
<u>Body</u> Explain 1 internal factor contributing to rising inflation	One of the internal factors contributing to cost-push inflation in Singapore is the rising transportation cost. The Singapore government has implemented several measures to tackle traffic congestion and as a result there had been increases in COE prices, ownership charges (e.g. road taxes) and user charges (e.g. ERP, carpark, fuel tax) over the years. This has resulted in higher transportation cost for all firms (some affected more than others) → increase in cost of production → upward sloping and horizontal segment of AS curve shifted left/up → higher GPL Or One of the internal factors contributing to demand-pull inflation in Singapore is the strong domestic consumers and investors sentiments. Such strong domestic consumers and investors sentiment could be due to the announcement of positive news by the government (during National Day Rally or Budget Speeches) → firms and households being encouraged to invest or consume more. E.g. the promise of some

	technology grant will incentivise firms to invest in R&D, the promise of some cash grants will incentivise households to increase their consumption → increase in AD → AD shift up/right → higher GPL
<u>Body</u> Explain 1 external factor contributing to rising inflation	<p>One of the external factors contributing to cost-push inflation in Singapore is that of imported inflation.</p> <p>As the global economy becomes increasing connected and growing → need to increase production → increase in DD for raw materials (e.g. crude oil, metals) → increase in prices of raw materials.</p> <p>Since S'pore is a small economy which is reliant on imported raw materials, the increase in prices of raw materials → higher imported inflation → increase in COP → upward sloping and horizontal segment of AS curve shifted left/up → higher GPL</p> <p>Or</p> <p>One of the external factors contributing to demand-pull inflation in Singapore is the strong export performance.</p> <p>With global growth → increase in worldwide income levels → increase in purchasing power → increase in DD for goods and services (both domestic and imported) → increase in DD for Singapore's exports → increase in X → increase in AD → AD shift up/right → higher GPL</p>
<u>Body</u> Explain 1 internal/external factor contributing to rising inflation	3 rd factor can be 1 of the 4 factors above

Marking Scheme

L3	<p>For a well-developed explanation of the external and internal factors causing rising inflation in Singapore, using accurate economic concepts/models, with use of appropriate examples for illustrations.</p> <p>At least 1 external and 1 internal factor must be covered for L3.</p>	8 – 10
L2	<p>For an under-developed explanation (some gaps, minor mistakes, generally accurate still) of the external and internal factors causing rising inflation in Singapore. May contain some conceptual errors but appropriate economic concepts/model are applied, or some examples used are not well-explained.</p> <p>Or</p> <p>Well-developed explanation of only 1 factor – capped at 5m</p>	5 – 7

L1	For an undeveloped answer that shows knowledge of the links but contains a few valid points or is mostly irrelevant or inaccurate.	1 – 4
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c) Discuss the economic policies that a government could adopt to tackle rising inflation. [15]

Suggested approach for (b)

- Introduction:
 - o Briefly reiterate the causes of rising inflation
 - o Identify the economic policies a government could consider to tackle rising inflation
- Body:
 - o Policy A
 - Explain how policy A tackles rising inflation
 - Discuss the merits/strengths of policy A in tackling rising inflation
 - Discuss the demerits/limitations of policy A in tackling rising inflation
 - o Policy B
 - Explain how policy B tackles rising inflation
 - Discuss the merits/strengths of policy B in tackling rising inflation
 - Discuss the demerits/limitations of policy B in tackling rising inflation
- Conclusion
 - o Synthesis:
 - Extent of effectiveness or appropriateness of respective policies
 - Relative effectiveness or appropriateness of both policies

Suggested Answer for (b)

<u>Introduction</u> Reiterate causes of rising inflation ID economic policies and match them to the causes	Possible causes of rising inflation: <ul style="list-style-type: none"> - Demand-pull (could be due to C, I, G, X, M) - Cost-push (could be imported, rising domestic cost) Recognise that the policy recommendation should be able to tackle the root causes of the inflation or at least address the effects of inflation: <ul style="list-style-type: none"> - Exchange rate appreciation if inflation is due to imported inflation or net exports driven - Supply-side policies if inflation is due to AD increasing faster than AS. - CFP, CMP if the economy is overheating where AD is still increasing when it is already cutting AS at Yf.
<u>Body</u> Explain how exchange rate appreciation can be adopted to tackle rising inflation.	Explain how exchange rate appreciation can tackle inflation <ul style="list-style-type: none"> - Appreciation of e/r → price of imports to be relatively cheaper → able to import raw materials more cheaply → able to contain the imported inflation → fall in COP → upward sloping and horizontal segment of AS to shift right/down → reduce cost-push inflation due to imported inflation - Appreciation of e/r → rise in Px (in FC) + fall in Pm (in DC) → fall in qty DDX (in FC) + rise in qty DDM (in DC) → fall in X (in DC) + rise in M (in DC, assuming PEDm > 1) → fall in (X-M) → fall in AD → reduce DD-pull inflation due to net exports

	<p>Merits/strengths of e/r appreciation in tackling inflation</p> <ul style="list-style-type: none"> - Appreciation of e/r will be highly effective in tackling inflation for a small and open economy which is very prone to net exports driven DD-pull inflation or imported inflation (e.g. Singapore). This is because of the lack of raw materials domestically and the small domestic market leading to high reliance on net exports as a driver of economic growth. - Will be effective especially in times of global economic boom where prices of raw materials will be high due to high DD and DD for imports will be high due to high income level. <p>Demerits/limitations of e/r appreciation in tackling inflation</p> <ul style="list-style-type: none"> - Effectiveness: the appreciation of e/r will reduce net exports if the sum of PEDx and PEDm > 1. In certain economies where the PED of the goods and services are < 1, appreciation of e/r could lead to higher AD and more DD-pull inflation. E.g. crude oil exporters - Unintended consequences: the appreciation of e/r is contractionary in nature and the fall in AD could lead to weaker economic growth and possibly higher unemployment.
<u>Body</u> Explain how SSP can be adopted to tackle rising inflation.	<p>Explain how SSP can tackle inflation</p> <ul style="list-style-type: none"> - SSP in increasing the QQT of FOPs → increase in the QQT of FOPs → increase in productive capacity of the economy / potential growth → rightward shift of the vertical portion of the AS curve → falling COP in general → upward sloping portion of AS to shift right/down → reduce inflationary pressures. E.g. R&D, skills training, building infrastructure - Other SSP affecting the COP → decrease in COP → upward sloping portion of AS to shift right/down → reduce inflationary pressures. E.g. production subsidies, reduction in production taxes <p>Merits/strengths of SSP in tackling inflation</p> <ul style="list-style-type: none"> - SSP in QQT will be a more sustained solution to tackling DD-pull inflation as compared to CMP or CFP. This is because inflation is being tackled without sacrificing EG or unemployment. <p>Demerits/limitations of e/r appreciation in tackling inflation</p> <ul style="list-style-type: none"> - Effectiveness: SSP in QQT may not be effective in addressing an over-heated economy. This is because SSP typically has a long gestation period and is sometimes uncertain, therefore, government should resort to CFP or CMP if they want to cool down the economy quickly. - Appropriateness: SSP may impose a burden on the government's budget as the government needs to finance the subsidies or spend on building infrastructure. Governments which are in debt situation may not be able to finance such expenditure without borrowing. - Unintended consequences: SSP in production subsidies or reduction in production taxes may sometimes be viewed as protectionistic measures that give the domestic producers an unfair advantage. This could lead to retaliation and hurt net export performances.
<u>Conclusion synthesis</u>	Whether the economic policies can effectively or appropriately tackle rising inflation depends on the:

	1) Root causes of inflation or state of economy (where AD cuts AS) 2) Nature of the economy (govt in debt, PEDx/PEDm, small/open economy etc)
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Mark Scheme

Level	Descriptor	Marks
L3	<p>For an answer that gives an accurate interpretation of question (how economic policies can be used to tackle rising inflation) and application of economic concepts (AD-AS model, policy mechanism). Answers should also contain detailed economic analysis with appropriate use of the real-world examples to illustrate the main points.</p> <p>To score L3, the following must be satisfied:</p> <ul style="list-style-type: none"> - At least 2 policies - Good explanation how policies work - Good discussion of both the merits + demerits of the policies - Clear use of examples to illustrate the main points <p>i.e. 2 policies, 2-sided, developed</p>	8 – 10
L2	<p>For an under-developed answer (few gaps, few mistakes) that addressed the question (how economic policies can be used to tackle rising inflation) with accurate economic analysis with attempt to address the context of the question. [lacking depth]</p> <p>i.e. 2 policies, 2-sided, lacking depth</p> <p>For a developed answer that explained only 1 side of the analysis (either (how well or how limited) with complete and accurate analysis and consistent reference to the context. [lacking scope]</p> <p>i.e. 2 policies, 1-sided, developed</p> <p>1 policy, 2-sided, developed will cap at 6m.</p>	5 – 7
L1	<p>For an answer that gives an inaccurate interpretation of the question and application of economic concepts. Answer also contains inaccurate / no economic analysis with inappropriate / lack the use of the context given in the question. Information given in the preamble is inaccurately interpreted or not used.</p> <p>For answers in this range, we should expect:</p> <ul style="list-style-type: none"> - Mostly descriptive statements with no attempt at explanation - Major content errors - Not answering the question at all 	1 – 4
E3	Well-explained reasoning with relevant economic analysis and good use of real-world examples. E.g. how well certain policies can tackle rising inflation.	4 – 5

E2	Attempted to explain the reason for the stand, with incomplete reasoning.	2 – 3
E1	State the extent certain policies can tackle rising inflation.	1

Q6

US President Donald Trump won support by tapping into workers' anger over job losses linked to globalisation. He has since pulled US out of the Trans-Pacific Partnership (TPP), a free-trade pact signed by countries including Japan, Australia and Singapore.

Assess the likely impact of Donald Trump's decision, to pull the US out of the TPP, on the economic agents in US and the US economy. [25]

Suggested Answer

Introduction	Introduction The Trans-Pacific Partnership (TPP) is a form of free trade agreement (FTA), where member countries agree to reduce barriers to trade and investment, creating a freer flow of goods, services and people. Donald Trump's decision to pull the US out of the TPP means that existing forms of trade barriers in US which typically target either imports or directly help the domestic sectors will continue to be in place. Examples of trade barriers / protectionist measures include import tariffs, quotas and production subsidies. This decision will impact economic agents in US and the US economy in different ways.
Body: Impact on economic agents in US <u>Impact on domestic firms, i.e. revenue, costs and profits</u>	Short-term <ul style="list-style-type: none">- Firms in sectors that compete with cheaper imports, will benefit from import tariffs/quotas and would not suffer as much from a fall in revenue, thus maintaining profitability and would not have to shut down or leave the industry. This is because the imports will become relatively more expensive given the import tariffs.- Similarly, firms in sectors that compete with cheaper exports from other countries may continue to enjoy production subsidies and hence maintain its price competitiveness against other countries exports. Hence, maintaining their revenue and profitability. Long-term <ul style="list-style-type: none">- Continued protection of domestic firms producing raw materials or intermediate goods would mean that other domestic firms using these raw materials or intermediate goods lose access to cheaper raw materials or intermediates goods that could have been imported. As a result, such domestic firms pay a higher cost of production, leading to higher prices, lower profits or even losses → Shut down or leave the industry- Continued protection of domestic firms may breed complacency, resulting in x-inefficiency and productive inefficiency, which may lead to higher costs, and lower profits. Possible points for evaluation: <ul style="list-style-type: none">- Firms in sectors competing with imports will benefit, while firms relying on imports as raw materials will suffer (depends on nature of product)- Extent of rise in cost of production, i.e. a large proportion of factor inputs or intermediate goods imported means a larger impact on profits, thus a larger impact on profits and higher chance of making losses and shutting down (depends on nature of industry)

<p>Body: Impact on economic agents in US</p> <p><u>Impact on domestic households, i.e. prices, quality and variety of goods and services; incomes, purchasing power and standard of living</u></p>	<ul style="list-style-type: none"> - Short-term <ul style="list-style-type: none"> - Workers in sectors that compete with cheaper imports do not have to suffer from loss of wages / can maintain employment → income and purchasing power retained → ability to consume goods and services maintained → material standard of living maintained - Domestic firms facing higher costs of production may pass on higher costs to consumers by rising prices of goods and services → Consumers pay higher prices - Import expenditure curtailed → Less variety of goods or higher prices paid since the goods are now produced or obtained at a higher opportunity cost - Long-term <ul style="list-style-type: none"> - Anti-competitive behaviour such as dumping may lead to foreign firms gaining greater market share in the long run. Thus, not having to remove trade barriers means domestic households would not be exploited (in the form of higher prices and less variety) in the long run - Continuing to allow inefficient domestic producers to produce goods in which they have no comparative advantage (CA) → Consumers pay more as these goods could have been imported at a lower price; low / lower-quality and/or a limited variety of goods - Possible points for evaluation: <ul style="list-style-type: none"> - Workers in sectors that compete with imports will get to retain jobs and purchasing power; while workers employed in export sectors may be affected adversely (depends on nature of industry / jobs) - Whether domestic households are positively or negatively affected depends on: <ul style="list-style-type: none"> - Less variety and higher prices? - Less variety but lower prices?
<p>Body: Impact on economic agents in US</p> <p><u>Impact on government, i.e. government spending, tax revenue, budget balance / position, national debt, microeconomic aims: efficiency and equity, etc.</u></p>	<ul style="list-style-type: none"> - Short-term <ul style="list-style-type: none"> - Prevents unemployment from arising → Less need to pay out unemployment benefits → Improves budget balance - Revenue collected from imports tariffs adds to revenue sources → improves budget balance - Long-term <ul style="list-style-type: none"> - With trade barriers such as import tariffs still in place, government can continue to collect tax revenue → Reduce budget deficit and / or reduce the amount of foreign debt and preserve living standards of households in future - If initial assessment by the government is accurate, i.e. industries with potential are protected → Successful diversification and reduce vulnerability - Provision of subsidies to domestic producers not sustainable in the long run → Worsen budget balance / rise in budget deficit → rise in national debt - Continued protection of industries with no potential → Allocative inefficiency / misallocation of resources as gains from specialization are not reaped

<p>Body: Impact on the US economy</p> <p><u>Impact on the US economy, i.e. achieving macroeconomic goals</u></p>	<p>Body: Impact on the US economy</p> <p><u>Impact on the US economy, i.e. achieving macroeconomic goals</u></p> <p>Internal economy</p> <p>Short-term</p> <ul style="list-style-type: none"> - Prevents unemployment from rising as domestic firms would not have to shut down - Import tariffs → reduce import expenditures + export production subsidies → maintain export revenue = Maintain or improve current account and BOP - Improve BOP → help increase external value of USD (or at least stop it from falling too much) → Help keep prices of imported raw materials and goods in check – either reduce imported prices, maintain imported prices or reduce rate of increase of prices of imports → Price stability - Actual growth; fall in unemployment as domestic consumers switch to relatively cheaper domestic goods and services → C rises → AD rises - Rise in costs of production of domestic firms as they may be less efficient → Cost-push inflation <p>Long-term</p> <ul style="list-style-type: none"> - If infant industries that are protected can expand production sufficiently to reap internal economies of scale and reduce average costs to a level which allows it to compete effectively against its foreign rivals, economic growth would be generated, reducing unemployment - Slower growth (or even negative growth); rise in unemployment; Worsening BOP as direct adverse impact on US trading partners' economic growth will eventually result in lower X as foreign households experience a lower increase in income growth etc. - Rise in costs of production of less efficient domestic firms → Cost-push inflation → Make losses and close down → If workers do not have relevant skills to take up jobs in the other sectors of the economy → Structural unemployment - Domestic firms producing exports that lose access to cheaper raw materials or intermediate goods incur higher cost of production → exports become more expensive and lose export price competitiveness → Fall in X → Fall in (X – M) → Slower growth (or even negative growth); rise in cyclical unemployment <p>Possible points for evaluation:</p> <ul style="list-style-type: none"> - Impact on general price levels depend on whether exports have high import content (nature of economy) - Overall impact on unemployment and economic growth depends on extent of contribution of sectors to the economy, i.e. affected sectors contribute significantly to the economy → overall rise in unemployment (nature of economy) - Extent of rise in structural unemployment depends on the factor mobility, i.e. do the workers have relevant skills to take up jobs in the other sectors (nature of economy)
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	<p>External economy</p> <p>Short-term</p> <ul style="list-style-type: none"> - Improves current account and BOP and help increase / maintain external value of USD <p>Long-term</p> <ul style="list-style-type: none"> - Domestic firms producing exports that lose access to cheaper raw materials or intermediate goods incur higher cost of production → exports become more expensive and lose export price competitiveness → Fall in X → Worsens current account - May invite retaliation from trading partners → Government's aim (improvement in BOP account) may not be realised
<u>Overall conclusion</u>	Donald Trump's decision to pull US out of the TPP does bring about benefits and costs to economic agents in the US and the US economy. However, this should only be used as a short-term solution as it could help alleviate some of the acute problems that the government is facing. This however, cannot be a long-term solution the costs of pulling out of the TPP outweigh the benefits.

Marking Scheme

Knowledge, Application / Understanding and Analysis		
	<p>For a thorough analysis (depth) of how Donald Trump's decision to pull the US out of the TPP will impact all economic agents in US AND the US economy (scope). The answer also explains the short-term and long-term impact (scope), coupled with the positive and negative impact (scope).</p> <p>Scope required:</p> <ol style="list-style-type: none"> 1) Impact on firms (positive and negative, ST and LT) 2) Impact on consumers (positive and negative, ST and LT) 3) Impact on government (positive and negative, ST and LT) 4) Impact on internal economy – economic growth, unemployment and inflation (positive and negative, ST and LT) 5) Impact on external economy – BOP, exchange rates (positive and negative, ST and LT) 	18 – 20
L3	<p>For a thorough analysis (depth) of how Donald Trump's decision to pull the US out of the TPP will impact economic agents in US and the US economy (either ST / LT OR positive / negative impact) (missing some scope), i.e. 1 to 5 must still be covered, just inconsistent in covering the positive vs. negative or ST vs. LT)</p> <p>OR</p> <p>For a thorough analysis of how Donald Trump's decision to pull the US out of the TPP will impact some (not all) economic agents in US and the US economy (both ST / LT impact and positive / negative impact), i.e. missed out 1 part from 1 to 3 or missed out 4 or 5</p> <p>If 2 significant scope are left out (1 about agents, 1 about economy) - Cap at L3 – 15m If 2 significant scope are left out (both about economy) - Cap at L2 – 14m</p>	15 – 17
L2	<p>For an answer that shows clear analysis with accurate use of economic concepts (accurate but contains a few gaps or minor mistakes) in explaining how Donald Trump's decision to pull the US out of the TPP will impact economic agents in US (both ST / LT and positive / negative impact) (half the scope)</p> <p>OR</p> <p>For an answer that shows clear analysis with accurate use of economic concepts (accurate but contains a few gaps or minor mistakes) in explaining how Donald Trump's decision to pull the US out of the TPP will impact the US economy (both ST / LT and positive / negative impact) (half the scope)</p>	12 - 14
	<p>For an answer that shows accurate use of economic concepts in some explanation. Explanation lacks rigour in analysis. (accurate but contains some gaps or minor mistakes)</p> <p>Or</p>	9 – 11

	For an answer that shows analysis of how Donald Trump's decision to pull the US out of the TPP will impact either economic agents in US or the US economy, either only just ST / LT or positive / negative impact (about 1/3 of required scope)	
L1	For a relevant and correct but descriptive answer that merely state the impact of Donald Trump's decision to pull the US out of the TPP, with some linkages to how the economic agents and / or the US economy are affected.	6 – 8
	For a relevant but incorrect and descriptive answer that merely state the impact of Donald Trump's decision to pull the US out of the TPP, with some linkages to how the economic agents and / or the US economy are affected.	3 – 5
	For an irrelevant and / or incorrect answer of the impact of Donald Trump's decision to pull the US out of the TPP, with no explicit linkages to how the economic agents and / or the US economy are affected.	1 – 2
E3	For an answer that uses analysis to support an evaluative appraisal of the overall impact of Donald Trump's decision, to pull the US out of the TPP, on the economic agents in US and the US economy.	4 – 5
E2	For an answer that makes some attempt at an evaluative appraisal of the overall impact of Donald Trump's decision, to pull the US out of the TPP, on the economic agents in US and the US economy.	2 – 3
E1	For an answer that gives an unsupported concluding statement on the overall impact of Donald Trump's decision, to pull the US out of the TPP, on the economic agents in US and the US economy.	1